

**City of Sedona**

## **Sedona Shuttle Feasibility Study**



# **Existing Conditions Report**



**May 2002**

 **nelson\nygaard**  
consulting associates

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# Executive Summary

## Introduction

During the 1990's Sedona area residents became increasingly concerned about the impact of new developments and increased tourism on the area's traffic congestion. In order to preserve Sedona's quality of life and avoid environmental degradation, many recognized that measures needed to be taken to address these concerns in a way that would also protect the area's economic vibrancy. In 1998, a local environmental advocacy group, Action Coalition for Transportation Solutions ("ACTS") commissioned a study of traffic congestion and transit needs in the Sedona/ Red Rock area. The resulting Vision Report entitled ***"Ensuring a Livable Future: Transportation and a Strategic Vision for the Greater Sedona Community"*** proposed developing a public shuttle system serving both residents of the Red Rock area and visitors to Oak Creek Canyon. The study also recommended that the City of Sedona, the U.S. Forest Service (USFS), Coconino and Yavapai Counties, and the Arizona Department of Transportation (ADOT) sponsor a follow-up study to assess the feasibility of a public shuttle system in more detail.

Based on this recommendation, Nelson\Nygaard Consulting Associates was hired by the City of Sedona to conduct the Shuttle Feasibility Study, which was initiated in January 2002. The USFS, ADOT, Yavapai County, and ACTS are included as members of the Steering Committee overseeing the study. As the first step in the study process, this Existing Conditions Report compiles and analyzes information on the transportation needs of residents and visitors, peer transit systems, and stakeholder concerns and suggestions. The findings made in this report will help to define a range of transportation alternatives that will be studied in the next phase of the project.

## Report Summary

### Transportation Needs Assessment

Previous transportation studies, including the Vision Report, provided useful information on the overall transportation patterns and needs in the Verde Valley area. In general, Verde Valley residents regularly travel between communities for a variety of trip purposes. In particular, many of those who work in Sedona live in the Cottonwood, Clarkdale and Cornville areas, and these reports suggested that there is sufficient demand to support a commuter bus service between Sedona and Cottonwood.

The Vision Report, which addressed shuttle service in the Sedona area more specifically, developed a range of complementary actions to help manage transportation in the Sedona area. The report outlined shuttle services and operations based on the assumption that the USFS and ADOT would agree to severely restrict auto traffic in the canyon and that parking restrictions would be imposed within the City of Sedona . Only under such conditions and

with extensive marketing could the proposed shuttle service generate enough riders to operate at frequent intervals and be self-sustaining. Under these idealized conditions, the report predicted 1.1 million annual shuttle riders (including one million visitors) at fares high enough to cover operating costs.

Demographic and survey data included in this report provide additional information on local populations that have latent demand for transit services, and on resident and visitor preferences for a potential shuttle service. In Sedona, the elderly, some of whom are unable to drive due to physical limitations, make up a significant minority of the City's population. As the City's population continues to age, demand for local transit services is likely to grow. Results from the surveys, which were conducted during the low and high tourism seasons in the Spring of 2002, indicate that both residents and visitors are very receptive to the implementation of some type of shuttle service. However, the key question remains whether this positive response to shuttle would translate into actual usage. Shuttle usage by both residents and visitors will depend primarily on the amount of fare charged, the frequency of service, and on the difficulty or cost of finding parking. Both residents and visitors considered the ability to stop anywhere along the shuttle route an important service feature.

## **Survey of Peer Systems**

To provide a broader context of shuttle feasibility based on industry standards, the consulting team analyzed the experiences of seven other transportation systems located in areas of national significance and primarily geared towards the needs of tourists and residents of gateway communities. The following key elements were found:

- The most successful systems prohibit or limit automobile access, while providing transit as the only available transportation option;
- The percentage of total visitors using shuttle service is low when use of private automobile is an option;
- Most systems operate on headways of 30 minutes or better;
- There is a wide range in the fares charged on tourist-oriented transit systems;
- Marketing to potential visitors is key to success; and
- There is a variety of funding models for shuttle systems, although most rely on a mix of Federal transportation and air quality funds, National Park Service, contributions by gateway communities, and, to a minimal degree, farebox revenues (with the exception of Sabino Canyon).

## **Stakeholder Concerns and Suggestions**

In order to complement the data provided in the demographic analysis and the survey findings, the team also conducted in-depth interviews with nine key stakeholders in the community; two Steering Committee meetings; and an Advisory Committee meeting. The

stakeholders represented a diverse array of viewpoints in the community and included tourism, business, medical, government, advocacy and recreation sector representatives. While most of the stakeholders believe that there is a need for transit service in Sedona, there were a number of key dissenting voices who questioned the likelihood of shuttle usage, particularly amongst tourists. Several stakeholders stated that parking restrictions and controls would be an important component of a more tourist-oriented service. Although some stakeholders thought it important that shuttle service be self-sustaining, the majority agreed that having low fares was more critical. In terms of service amenities, stakeholders cited the importance of having frequent and reliable service, attractive buses with bike racks and large windows, safe and convenient park and ride lots, parking restrictions or fees in certain areas, and good public information and marketing.

## **Key Findings**

A shuttle serving both residents and visitors in the Sedona area is feasible, but can only be implemented on the broad scale originally envisaged if certain conditions can be met. Most important would be the limitation of auto access in the canyon to through traffic, and/or implementing parking restrictions or parking fees in key destinations such as the canyon and Uptown. Also important, particularly for a tourist-oriented shuttle, would be an effective marketing campaign and the incorporation of amenities that would attract visitors to a shuttle service. Given the limited possibilities of significant auto restrictions, at least at the initial stage of shuttle service implementation, the prospect of a self-sustaining service is remote, and substantial subsidies would be required.

There may be enough demand to support a relatively limited resident-oriented shuttle service even if parking restrictions prove to be difficult to implement in a timely fashion. Demographic analyses indicate that there are small pockets in the local Sedona population that are traditionally considered potentially transit dependent. Stakeholders also indicated that residents might be more likely shuttle users than visitors. Additionally, there is potential demand for commuter hour transit service between Sedona and Cottonwood that should be seriously considered. Combined with a potentially small market of visitors, particularly seniors, who may consider shifting from their cars to a shuttle service even without significant auto restrictions, a scaled down service would be feasible as a short-term strategy towards building support for auto limits. While this service model may be limited in terms of service hours and geographic locations served, it should still provide frequent, comfortable and relatively inexpensive service in order to attract sufficient ridership.

## **Next Steps**

The findings from this report will be presented to the Project Advisory Committee on June 3rd and the Steering Committee on June 4th. The team will then document the land use and parking policy issues that need to be taken into account in the development of alternative scenarios for shuttle implementation. The team will be adopting a two-pronged

approach to developing the different scenarios in which all or most of the “supportive policies” for transit usage are in place in one set of scenarios, and others in which some or none of these supportive policies are in place. Both sets of scenarios will take into account short and long-term strategies. For each scenario, we will include a discussion of the required administrative structure and preliminary cost estimates. All these scenarios will be presented to the public in a series of workshops in the summer of 2002. Based on input from the public and another round of meetings with the Steering and Advisory Committees, the team will then develop an Operating Plan for the preferred option. This Plan will be presented to the appropriate decision-making bodies in the late Fall. The study is scheduled for completion by the end of 2002.

# **Chapter 1. Overview of the Sedona Shuttle Feasibility Project**

## **Background**

During the 1990's Sedona area residents became increasingly concerned about the impact of new developments and increased tourism on the area's traffic congestion. In order to preserve the quality of life that has attracted many to the area and avoid degradation of the environment, many recognized that measures needed to be taken to address these concerns without impacting the economic vibrancy of the area. In 1998, a local environmental advocacy group, Action Coalition for Transportation Solutions ("ACTS") hired a consultant under the financial auspices of the Community Transportation Association of America (CTAA) to study the traffic congestion and transit needs in the Sedona/ Red Rock area. This study produced a Vision Report entitled "Ensuring a Livable Future: Transportation and a Strategic Vision for the Greater Sedona Community." The report proposed developing a public shuttle system serving both residents of the Red Rock area and visitors to Oak Creek Canyon. The study also recommended that the City of Sedona, the U.S. Forest Service (USFS), Coconino and Yavapai Counties, and the Arizona Department of Transportation (ADOT) sponsor a follow-up study to assess the feasibility of a public shuttle system that goes beyond the conceptual design phase of the Vision Report, and determines the conditions necessary to ensure a financially and operationally viable shuttle. The primary goal of the shuttle would be to significantly reduce congestion in the area by diverting a substantial number of auto users to the shuttle system.

Nelson\Nygaard Consulting Associates was hired by the City of Sedona to conduct this Shuttle Feasibility Study. The study was initiated by a January 2002 kick-off meeting of the Nelson\Nygaard study team ("the team") with the project Steering Committee. The Steering Committee consists of representatives of the following agencies:

- City of Sedona
- U.S. Forest Service
- Arizona Department of Transportation
- Yavapai County
- ACTS

## **Study Purpose and Scope**

This Existing Conditions Report describes the findings of a variety of efforts completed in the first half of 2002 to assess the transportation needs of residents and visitors to the Sedona area. The report findings will help to define a range of transportation alternatives that will be studied in the next phase of the project. The report initially examines the

scenarios for shuttle service that were included in the earlier Vision Report to determine whether the conditions required for a successful shuttle program are present in the proposed service area. Demographic trends are then examined to identify specific indicators of latent transit demand, such as: age; income levels; auto occupancy; employment trends; and overall population trends. The next section presents the findings from two comprehensive intercept surveys that were conducted during the low and high tourism seasons in the Spring of 2002. To provide a broader context of shuttle feasibility based on industry standards, the report documents the experiences of seven other transportation systems that are located in areas of national significance and are primarily geared towards the needs of tourists and residents of gateway communities. The report then presents the views of various key stakeholders in the community on shuttle feasibility. The implications for the feasibility of shuttle service of all these data are discussed in the final section of the report.

## **Chapter 2. Overview of Previous Transportation Studies**

While none of the numerous transportation studies conducted in the past decade focus on shuttle feasibility to the degree included in this report, they do include valuable information identifying overall transportation patterns and needs in the Verde Valley area. In general,

- Verde Valley residents regularly travel between communities for work, shopping, and other purposes.
- Sedona has the greatest number of workers commuting from other areas, most of whom are traveling from the Cottonwood, Clarkdale and Cornville areas.
- Traffic congestion can be severe along State Route 179 and State Route 89A in the Sedona area, and along State Route 89A in Jerome.
- Traffic on both roadways is projected to increase by more than 50 percent over the next 20 years, and ADOT is already widening 89A and has plans to widen certain segments of 179.
- There is sufficient demand to support commuter bus services between Cottonwood and Sedona.

The following is a more detailed summary of key findings from some of the most recent studies.

### **Ensuring a Livable Future: Transportation and Strategic Vision for the Greater Sedona Community; Planning the Sedona Shuttle System, October 1998**

The intention of the Livable Future report was to provide a range of complementary actions to help manage transportation within the greater Sedona community. These included controlling automobile access to attractions within the Coconino National Forest, promoting a balance between the development of highway, parking and other resources, and providing visitors and residents with transportation options, including the development of a public shuttle system. The report outlined shuttle services and operations based on the assumption that the USFS and ADOT would agree to severely restrict auto traffic in the canyon. Under this assumption, only through traffic would be allowed to travel through the canyon on Highway 89 for free. Although the report did not specify a mechanism for enforcing entrance fees, it did indicate that parking would either be prohibited at most sites or would be charged at a premium. Only under such conditions could the proposed shuttle service generate enough riders to operate at frequent intervals and in a self-sustaining manner. The report also stated that a significant amount of grant funding would be required to initiate shuttle service if the service was to be self-sufficient in the short-term. Under these idealized conditions, the report predicted 1.1 million annual shuttle riders (including one million visitors) at fares high enough to cover operating costs.

### **Verde Valley Regional Transportation Study Update, July 1999**

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Due to the fact that regional growth occurred at a faster pace than anticipated by the 1993 Verde Valley Regional Transportation Study, the 1999 study was undertaken to update the 1993 Regional Transportation Study, which guides the implementation of regional transportation improvements. Following is a summary of most relevant study findings:

- Primary access to the Verde Valley region is via Interstate 17, a four-lane divided freeway. In order to maintain mobility, the study recommended widening the freeway to six lanes. The ADOT Phoenix-Flagstaff-Page Corridor Study recommended widening Interstate 17 to six lanes between Middle Verde Road and State Route 179. It also recommended widening Interstate 17 to six lanes between State Route 260 and Middle Verde Road if the extension of Middle Verde Road to State Route 260 was not constructed.
- State Route 89A was found to operate at an acceptable level of service in the urban areas of Sedona, Cottonwood, and Clarkdale. There were various degrees of congestion in the two-lane section between Sedona and Cottonwood, and the traffic volumes on the entire Route were expected to increase by at least 50 percent in the next 20 years. Consequently, ADOT has scheduled this route to be widened to four lanes from Cottonwood to Bristlecone Road in Sedona.
- State Route 179 provides the only major access to Sedona from the south. Because this road links Interstate 17 and State Route 89A, two heavily traveled roads, it funnels a large volume of traffic between the two. Additionally, commercial access increases dramatically near Sedona. Traffic volumes on State Route 179, a two-lane undivided street that already operates at an unacceptable level of service between the Village of Oak Creek and Sedona, were expected to increase by more than 50 percent in the next 20 years. ADOT has scheduled this route to be widened to four lanes.

### **Verde Valley Transit Study, April 2000**

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The study was commissioned by Yavapai County in conjunction with the cities of Cottonwood and Sedona, the towns of Camp Verde, Clarkdale, and Jerome, and the Yavapai Apache Nation to identify transit services that are appropriate to meet the needs of people traveling between communities in the Verde Valley. Verde Valley residents often travel between communities when commuting to work, shopping and traveling for other purposes. Of Verde Valley communities, Sedona has the highest percentage of workers commuting from other areas, many traveling from Cottonwood, Clarkdale, and Cornville. The Sedona Origin-Destination Study (February 1998) found that 51 percent of the trips inbound to Sedona on State Route 89A originated in Cottonwood/Clarkdale. There also appeared to be well-defined trip patterns that would support a transit system within the Sedona/Village of Oak Creek area.

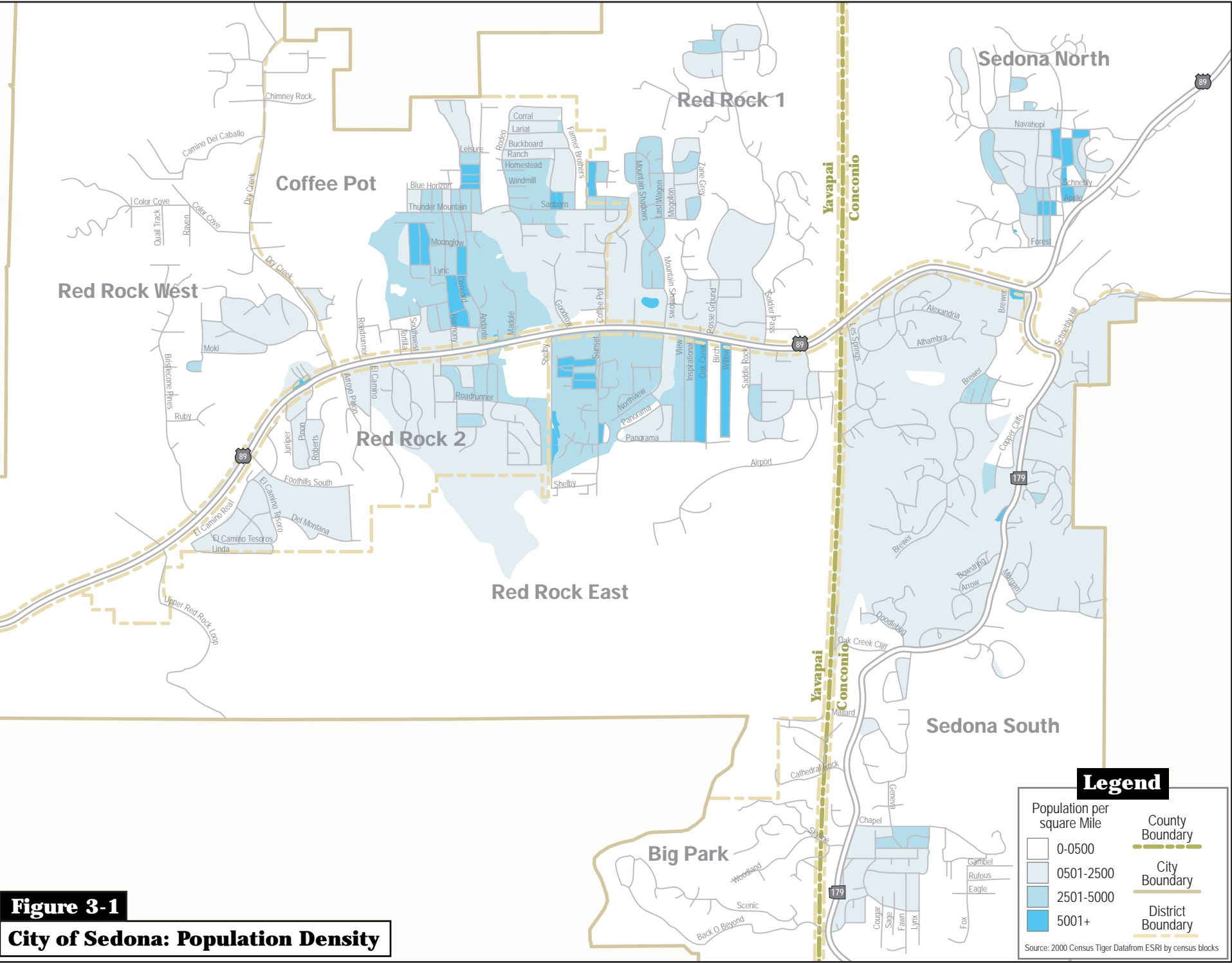
The recommended transit service alternative consisted of complementary bus and carpool/vanpool service. The transit component would consist of a regional commuter bus providing daily morning and afternoon service in three corridors: Cottonwood/Sedona, Camp Verde/Cottonwood, and Camp Verde/Sedona. The carpools and vanpools would serve smaller markets and operate in conjunction with the bus service. Vanpools and carpools would serve communities that were not large enough to support bus service, or would serve trips that occur outside the hours when bus service is provided. All services were to be coordinated with local transit services to the extent possible. The service proposal was determined to be operationally viable and able to operate within traditional industry standards for cost effectiveness.

## **Chapter 3. Sedona Area Profile**

The City of Sedona is located in northern Arizona's picturesque Verde Valley – home to the famous red rock cliffs and formations that have helped make Sedona one of Arizona's most popular tourist destinations. In addition to its scenic beauty, its more moderate climate (winters are warmer than in Flagstaff, and summers are cooler than in Phoenix) has also made the area a popular retirement location. This section details the demographic characteristics of Sedona and surrounding communities, and includes information on resident income, vehicle ownership, and local employment. This information can be used to assess the need for shuttle services, and to identify potential service areas and routes.

### **Population**

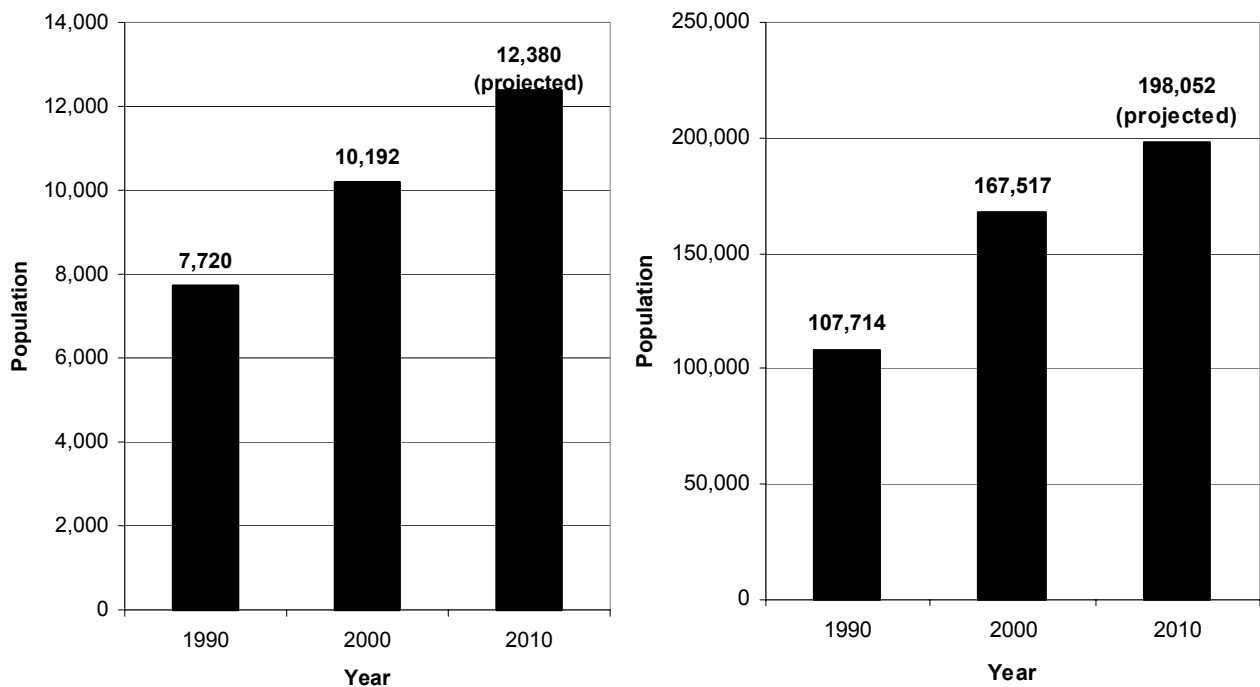
In 2000, Sedona's population was 10,192, according to the U.S. Census. Seventy-one percent of the City's population is located in Yavapai County, and 29 percent in Coconino County. The year 2000 population represents a 32 percent increase over the City's 1990 population of 7,720, reflecting an annual growth rate of approximately three percent. Sedona's population is concentrated in the Coffee Pot, Red Rock 1, Red Rock East, and Sedona North districts, as illustrated in Figure 1.



Neighboring Verde Valley communities also experienced substantial growth over the past ten years – the population of both Cottonwood and Clarkdale increased by nearly 55 percent, and the population of Camp Verde and the Village of Oak Creek increased by 70 and 73 percent, respectively. Overall, Yavapai County’s population increased by 56 percent between 1990 and 2000 from 107,714 to 167,517.

According to the Arizona Department of Economic Security, growth in Verde Valley communities over the next ten years is projected to be more moderate. The populations of Sedona, Camp Verde, and the Village of Oak Creek are each projected to increase an additional 21 percent by 2010. Clarkdale and Cottonwood populations are projected to increase by an additional 15 and 17 percent, respectively. Overall, Yavapai County’s population is projected to increase 18 percent to just over 198,000 by 2010. Figure 2 shows population growth in the City of Sedona and Yavapai County 1990 and 2000, and the projected growth between 2000 and 2010.

**Figure 3-2 Population of the City of Sedona and Yavapai County, 1990-2010**



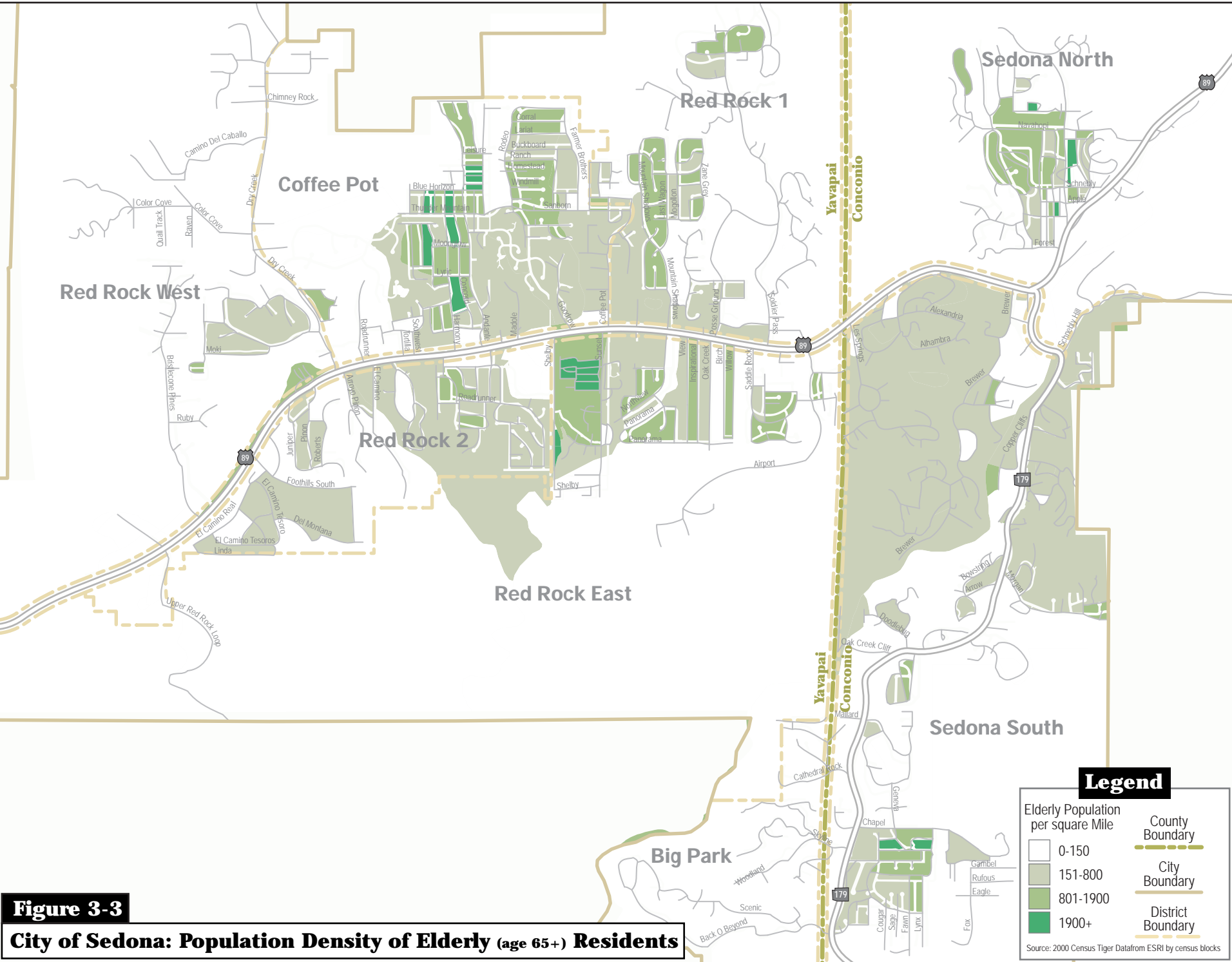
Sources: 2000 U.S. Census, Arizona Department of Economic Security

## Age

Sedona is home to a large number of retirees and older residents. The 2000 median age in Sedona was 51. This is older than Yavapai County's median age of 45, and is significantly older than the statewide median age of 34. In 2000, 26 percent of Sedona residents (or 2,605 people) were age 65 or older, and 38 percent of the City's households had at least one individual age 65 or older. The densest populations of elderly residents are located in the Red Rock East, Sedona South, Sedona North and Coffee Pot districts, as shown in Figure 3.

Sedona tends to attract retirees who live independently and then "age in place." This will create a growing mobility concern as older residents living in relatively low density development will ultimately require increasing transportation assistance.

Children also have mobility needs as they are largely dependent on others for transportation. Sedona's wide arterials make walking and biking difficult for younger children. Although children do have mobility needs, a relatively small proportion of the population falls into the category. Only 11 percent of Sedona residents (1,080 people) were between the ages of five and 17, and only 17 percent of Sedona's households had children under the age of 18 in 2000. Sedona's youth population is concentrated in the central area of the City and in the Sedona North district.



## **Income and Vehicle Ownership**

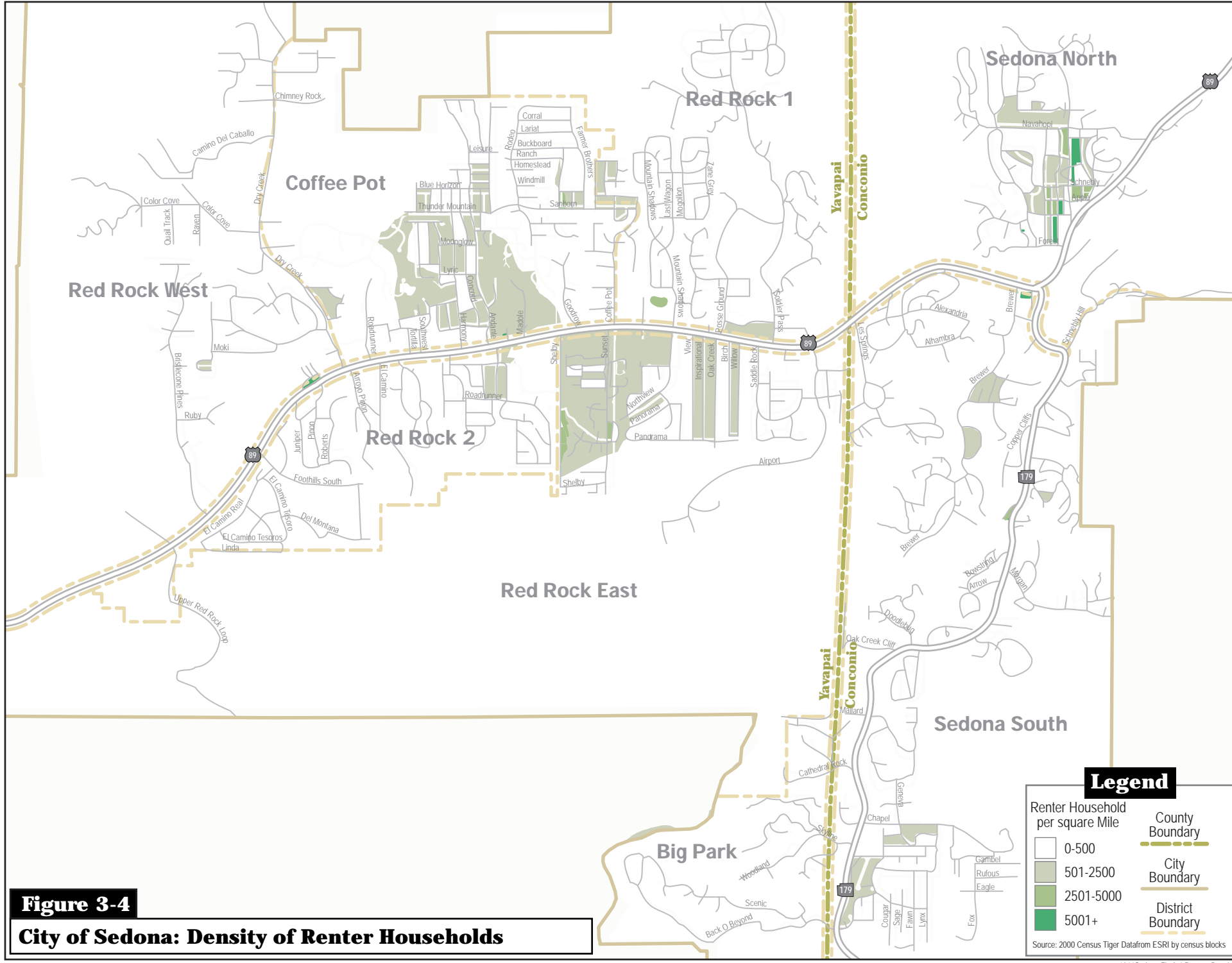
The 2000 median household income of Sedona area residents was \$36,650. This was higher than the Yavapai County median household income of \$32,238, but lower than the statewide median of \$44,353. Median household income in Sedona is approximately 31 percent higher than in surrounding Verde Valley communities, an area which includes the cities of Cottonwood and Camp Verde.<sup>1</sup>

Renter households tend to have lower than average incomes. Twenty-eight (28) percent of housing units in Sedona are renter-occupied. These are concentrated in the Red Rock East, Coffee Pot, and Sedona North districts. Figure 4 illustrates the areas where lower income households are most likely to be concentrated (by mapping the density of renter households in Sedona). Another indicator of potential transit markets is ethnicity. According to the 2000 Census data, approximately nine percent of Sedona residents are classified as Latino, whereas the proportion for Cottonwood is over 20 percent.

Based on 1990 Census data, a higher percentage of Sedona households had access to a vehicle compared with surrounding communities. While five percent of Sedona households did not have a vehicle available to them, nearly 15 percent of Cottonwood households did not have access to an automobile.

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<sup>1</sup> Arizona Department of Health Services, Office of Health Systems Development, January 2002 Primary Care Area Statistical Profiles.



## **Employment**

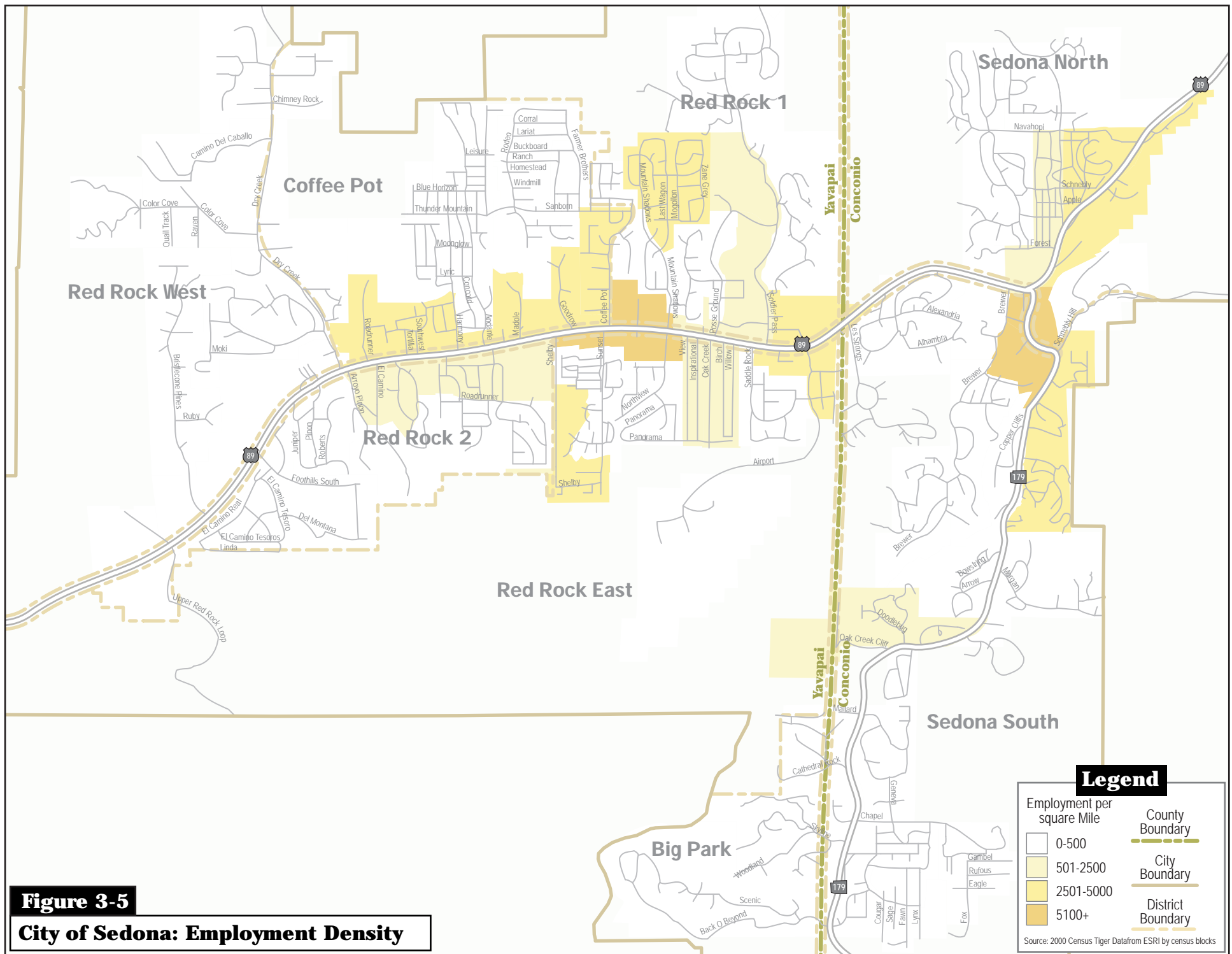
The Verde Valley/Sedona area is a major regional tourist attraction, with an estimated four million people visiting the area each year. Daily visitation levels approximate the City's population, although numbers of visitors vary considerably throughout the year. Not surprisingly, tourism is Sedona's leading industry, providing approximately 1,600 jobs directly and an additional 800 jobs in indirect and induced employment.

Sedona's labor force<sup>2</sup> grew by 50 percent between 1990 and 1998, but not enough to fully meet the demand for workers. The number of jobs exceeded the number of workers in Sedona by 1,328 in 1998 (6,284 jobs compared to a labor force of 4,956). Traffic surveys indicate that many of Sedona's non-resident workers commute from Cottonwood, where housing prices are lower than in Sedona.

Jobs in Sedona are concentrated along the State Route 89 and 179 corridors, as shown in Figure 5. These concentrations correspond to locations of commercial retail and service development which line both sides of SR 89 and the "Y" junction of State Routes 89 and 179.

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<sup>2</sup> Defined as "residents over 16 actively employed or looking for work".



## **Conclusion**

In many communities, persons who are most in need of transit services are those who are unable to drive themselves – youth, low income households who cannot afford their own vehicle, and certain members of the elderly and disabled populations whose physical conditions may make driving unsafe or impossible. In Sedona, the elderly make up a significant proportion of the City’s population. As the City’s population continues to age, demand for local transit services may grow. Furthermore, employment opportunities in Sedona attract workers from neighboring communities. With lower incomes and less auto access in nearby Cottonwood, intercity transit service to jobs in Sedona may be an area of potential demand.

## **Chapter 4. Low and High Season Survey Findings**

### **Introduction**

Nelson\Nygaard conducted two surveys of visitors to Sedona and Sedona area residents – the first during the tourism “low season” on Sunday, February 24 and Monday, February 25, 2002, and the second during the “high season” on Sunday, April 21 and Monday, April 22, 2002. The purpose of the surveys was to identify trip patterns and respondent preferences in relation to potential shuttle service in the Sedona area. Potential shuttle options presented in both surveys included:

- Service within the City of Sedona;
- Service between Sedona and Oak Creek Canyon; and
- Service between the Village of Oak Creek and Sedona.

The following discussion focuses on the results of the high season survey and includes relevant comparisons to the results of the low season survey. Following are survey highlights:

- Approximately two-thirds of visitors are from out of state, and nearly ten percent are from outside the U.S. The remainder (nearly one-third) are from elsewhere in Arizona.
- The visitor population is significantly younger than residents. Sedona has a higher proportion of seniors than found in either the statewide population or the national population.
- The great majority of residents and visitors (84 and 81 percent, respectively) reported no transportation problems during the survey period.
- The majority of visitors obtain their travel information by word of mouth or from friends or relatives, or from previous visits. Approximately 15 percent of respondents stated that they obtained their travel information via the internet.
- Over 70 percent of both residents and visitors were interested in using a city shuttle if the fare was one dollar or less. While parking restrictions did not appear to be a strong incentive for shuttle use during the low season, approximately 70 percent of visitors and residents said that lack of parking would increase their likelihood of using a shuttle.
- Higher fares negatively affected the likelihood of shuttle usage, with residents being more sensitive to higher fares than visitors. Fares of two dollars or more for the city shuttle and three dollars or more for the canyon shuttle appear to be key thresholds above which potential usage drops significantly.

- While increased service frequencies made a shuttle more attractive, the fare level was the most significant factor.
- Sedona area residents are frequent users of Oak Creek Canyon – about 54 percent use the Canyon once a month or more.
- The ability to stop anywhere on the route was also considered to be an important shuttle feature by both residents and visitors. Storage space for large items was one of the least important features. Relatively few visitors expressed strong support for audio presentations or guided tours on shuttles.
- Only about one in five visitors carry other equipment in addition to purses, knapsacks and cameras.

## Methodology

Nelson\Nygaard used a team of volunteers from the Action Coalition for Transportation Solutions (ACTS) to conduct both surveys. ACTS is a group of Sedona area residents that advocates for transportation alternatives in the Greater Sedona area. For the high season survey, this team was supplemented with five people from a local temporary employment agency. Prior to survey administration, all survey team members participated in a two-hour training session. For the high season survey, volunteers who had participated in the low season survey were given a one-hour refresher session. Volunteers were explicitly instructed not to give their personal opinion to potential respondents or to influence respondents' answers. Both surveys were supervised by consultant staff. Surveys were conducted on a Sunday and Monday in order to gather information from respondents on both a sample weekday and a weekend.

In order to achieve a statistically significant sample, the study team established a survey goal of 350-400 complete responses for the low season survey, and 400 complete responses for the high season survey. These goals were achieved in both surveys, with a total of 397 and 687 completed surveys collected in the low and high season survey efforts, respectively. Figure 4-1 summarizes the number of surveys collected from visitors and residents, as well as the number collected on each day.

**Figure 4-1 Summary of Surveys Collected**

	Resident	Visitor	Sunday	Monday	Total Surveys Collected
Low Season Survey	117	280	176	221	397
High Season Survey	199	488	361	326	687

Survey locations were nearly the same for both surveys. The high season survey was administered at 16 different locations throughout the Greater Sedona area, including locations in West Sedona, the Village of Oak Creek, Uptown, and Oak Creek Canyon.

One low season survey location was dropped due to low response rates, and another was added (the Chapel of the Holy Cross). Adjustments were also made during the high season survey effort, based on relative success at different locations, in order to maximize the number of responses obtained. Sites targeting both residents and visitors were included in both surveys.

Surveyors used similar survey questionnaires on both the low and high season surveys, with a few modifications intended to clarify questions and provide additional response choices. The survey instruments may be found as attachments at the end of this memorandum.

## **Survey Results**

Following are detailed survey results organized into three major topic areas:

- Respondent characteristics;
- Travel patterns; and
- Preferences for potential shuttle services.

The results presented here are focused primarily on those obtained from the high season survey due to the fact that a larger sample of both residents and visitors was obtained during the high season. However, any significant differences between low and high season survey results are included in the discussion.

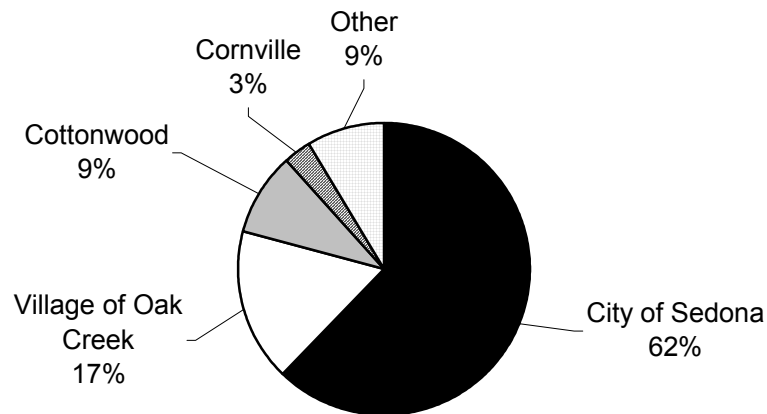
## **Respondent Characteristics**

One of the survey's main purposes was to gather information about the potential users of a new shuttle service – namely, residents of the Verde Valley area and visitors from other places. This information may be used to gauge the potential demand for shuttle services, and the particular transportation needs and preferences of any future riders.

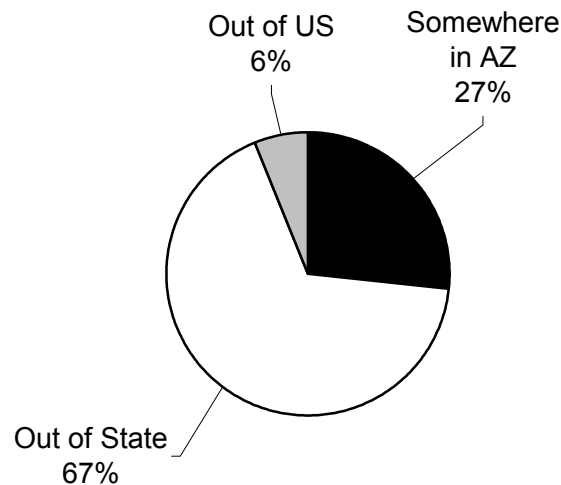
## Place of Residence

Figures 2 and 3 show the places of residence of both Verde Valley area residents and visitors. The majority of Verde Valley area residents were either from the City of Sedona or the Village of Oak Creek. Approximately ten percent of residents were from the City of Cottonwood. The majority of visitors were U.S. residents from another state (approximately two-thirds), while nearly one-third were from another place in Arizona. Only a small proportion of visitors (six percent) were from another country.

**Figure 4-2 Place of Residence – Verde Valley Residents**



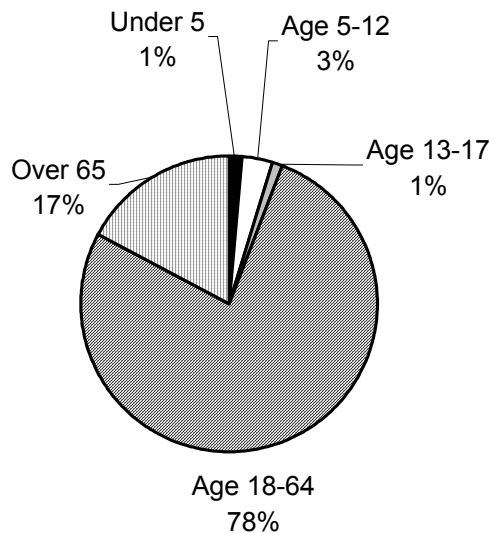
**Figure 4-3 Place of Residence - Visitors**



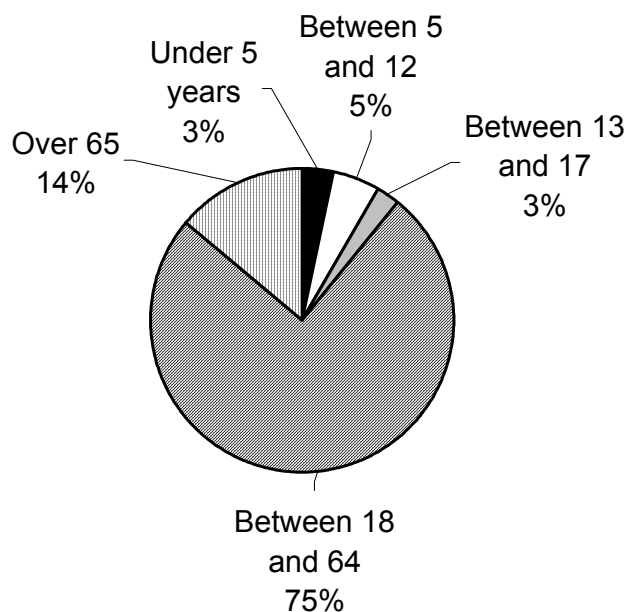
## Age

Respondents were asked to indicate general ages for all members of their parties. Age categories used in the survey were based on potential shuttle fare categories (general public, seniors, youth, and young children). Over three-fourths of both residents and visitors who responded to the survey were between the ages of 18 and 64. The second most common age category was over 65, as can be seen in Figures 4 and 5. A greater proportion of residents were over age 65 compared with visitors, the statewide population and the national population. According to the 2000 U.S. Census, 12 percent of the U.S. population and 13 percent of Arizona's population were age 65 or over.

**Figure 4-4 Age of Residents**



**Figure 4-5 Age of Visitors**



## Disabilities

Eight percent of residents and 11 percent of visitors reported that at least one member of their party had a disability that potentially made mobility difficult. For the low season survey, a slightly higher proportion of residents (12 percent) reported that at least one member of their party had a disability.

## Visitor Characteristics

Visitors were asked several questions about their travel to the Sedona area, including whether or not they had visited before, how they traveled to the area, how they planned their trip, and the length of their stay. Nearly half of the visitors surveyed reported that they were repeat visitors to the area, as can be seen in Figure 4-6.

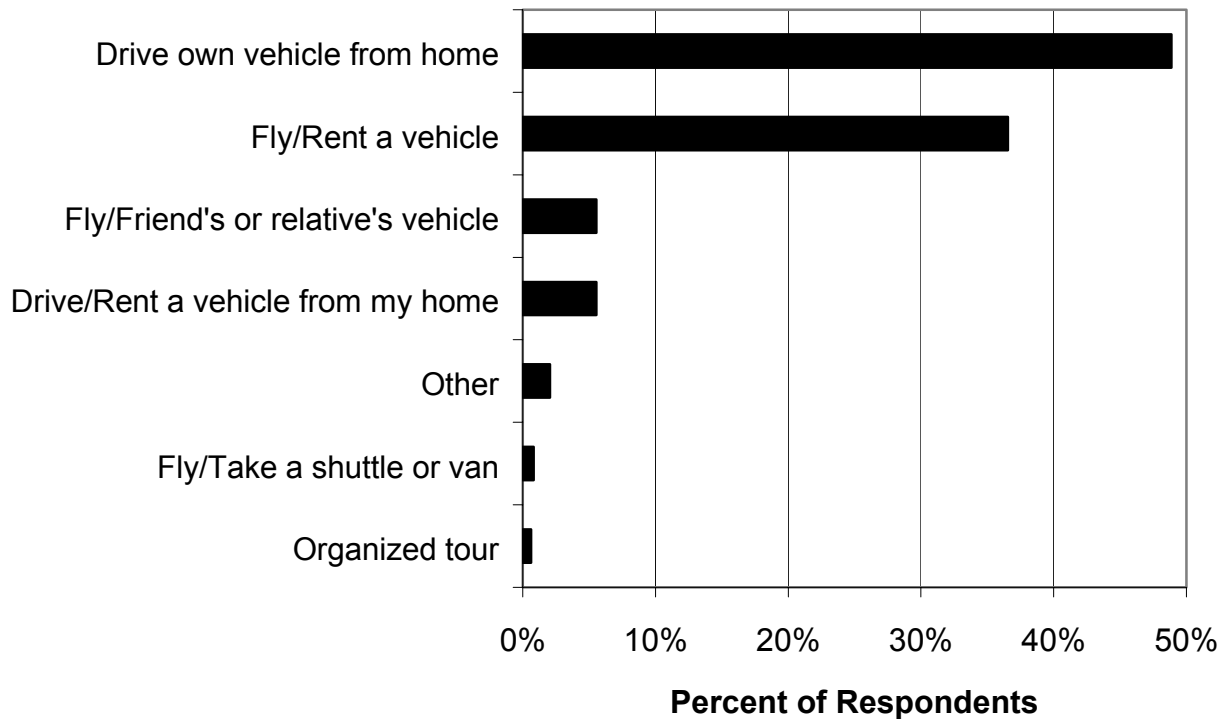
**Figure 4-6 First Visit?**

First Visit to Sedona?	Number of Responses	Percent
Yes	235	49%
No	245	51%
<b>Total</b>	<b>480</b>	<b>100%</b>

## Mode of Access

As shown in Figure 4-7, the great majority of visitors drove to Sedona, most of them coming in their own vehicles from home. Overall, 97 percent of visitors arrived in the area in a private vehicle. This is a key consideration in determining potential ridership, as it raises the issue of how many people who have arrived by car will voluntarily switch to a shuttle service. However, given the current lack of alternatives, high auto usage is to be expected.

**Figure 4-7 Arrival Mode**



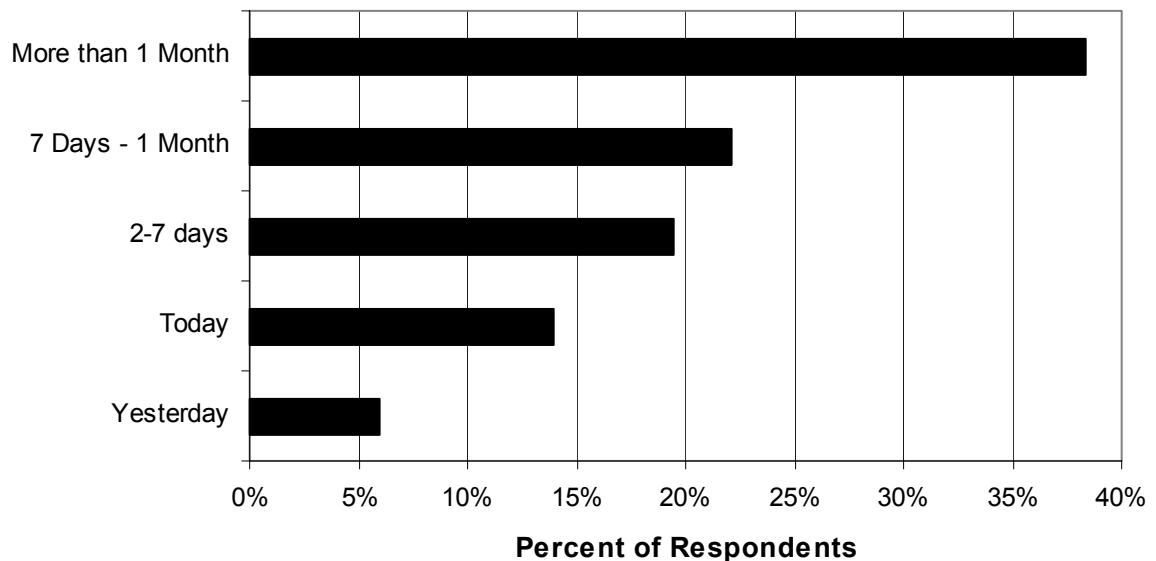
Arrival Mode	Number of Responses	Percent
Drive own vehicle from home	238	49%
Fly/Rent a vehicle	178	37%
Drive/Rent a vehicle from my home	27	6%
Fly/Friend's or relative's vehicle	27	6%
Other	10	2%
Fly/Take a shuttle or van	4	1%
Organized tour	3	1%
<b>Total</b>	<b>487</b>	<b>100%</b>

Information about how visitors planned their trips to Sedona can be used to determine how a future shuttle service can be promoted to visitors before they arrive in the area. Nearly 40 percent of visitors planned their trip over a month in advance, as shown in Figure 4-8. Overall, relatively few visitors planned their trips either the day before or on the day of travel. Sunday visitors, however, were more likely to plan spontaneous trips (planning the trip the day before or the day of travel). Spontaneous trips were also more common during the low season. Sixteen percent of low season visitors planned their trips the day before,

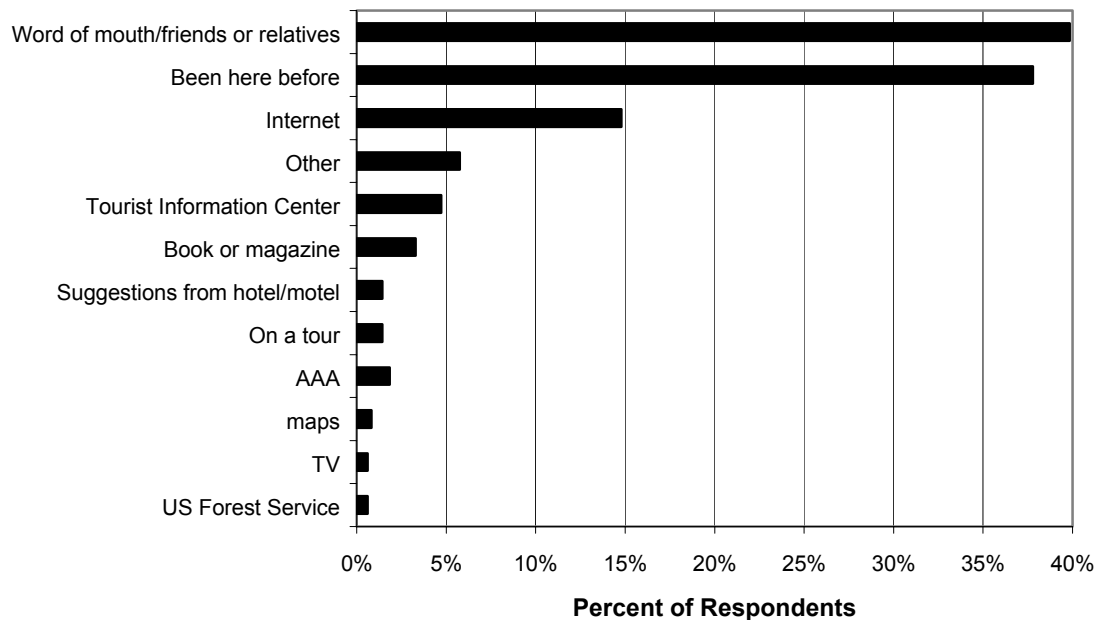
compared with only six percent during high season due to the higher proportion of in-state visitors for this type of day trip.

Most visitors to Sedona obtained their travel information from friends and word of mouth, or from previous trips to the area. Fifteen percent of visitors obtained information via the internet, as shown in Figure 4-9. This represented a greater proportion of visitors than during the low season, when only seven percent of visitors obtained their travel information from the internet.

**Figure 4-8 Advance Trip Planning**



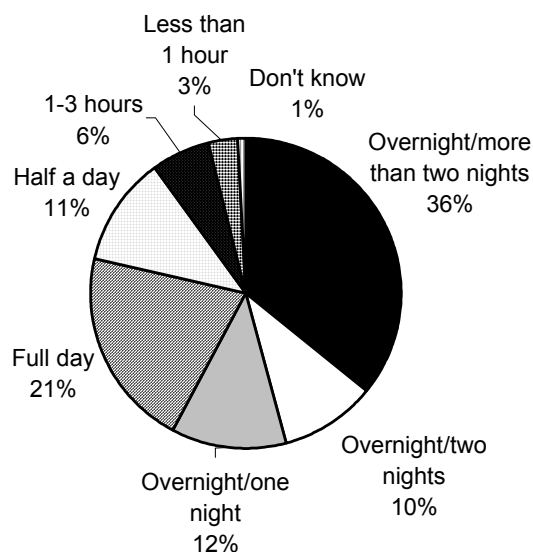
**Figure 4-9 Travel Information**



**Note:** Respondents could select multiple information sources; consequently, percentages do not add to 100.

A potential shuttle is more likely to be used by visitors who are in the area for more than a few hours, due to the planning and time that may be required for traveling on the shuttle. Approximately 58 percent of all visitors planned to stay for at least one night, and an additional 21 percent planned to stay for a full day. Sunday visitors were more likely to have shorter visits (a half day or less) than Monday visitors. Overall, high season visitors had longer visits than low season visitors. Only 46 percent of low season visitors planned to stay for at least one night, compared with 58 percent of high season visitors.

**Figure 4-10 Trip Duration**



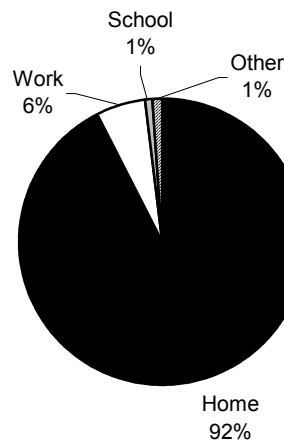
## Travel Patterns

In planning potential shuttle service routes, operation spans and frequencies, it is important to know where potential users are traveling to and from, why they are traveling, and the transportation modes they currently use to make their trips.

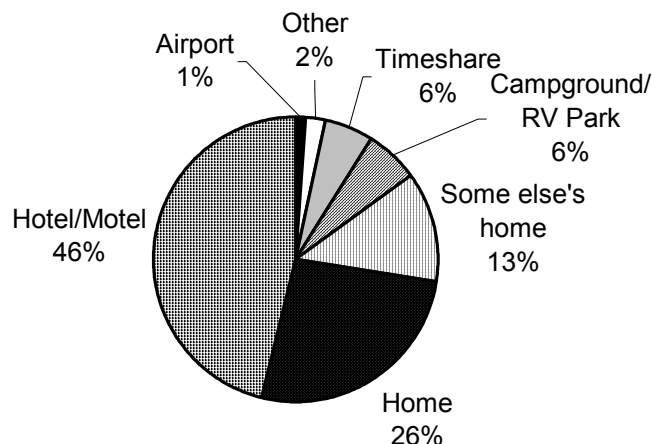
### Trip Origins and Destinations

Ninety-two percent of residents and 26 percent of visitors began their trips from home, as shown in Figures 11 and 12. The largest proportion of visitors (46 percent) began their trips from a hotel or motel. While there was no statistically significant difference in resident trip origins between Sunday and Monday, Sunday visitors were somewhat more likely to come from home, a timeshare, or a campground or RV park than Monday visitors. However, the majority of both Sunday and Monday visitors began their trips from a hotel or motel.

**Figure 4-11 Residents' Trip Origins**

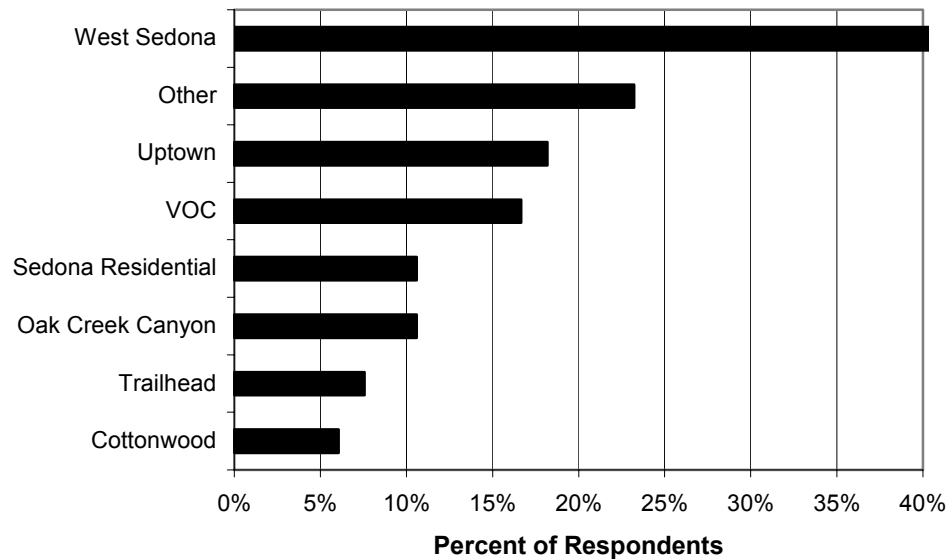


**Figure 4-12 Visitors' Trip Origins**



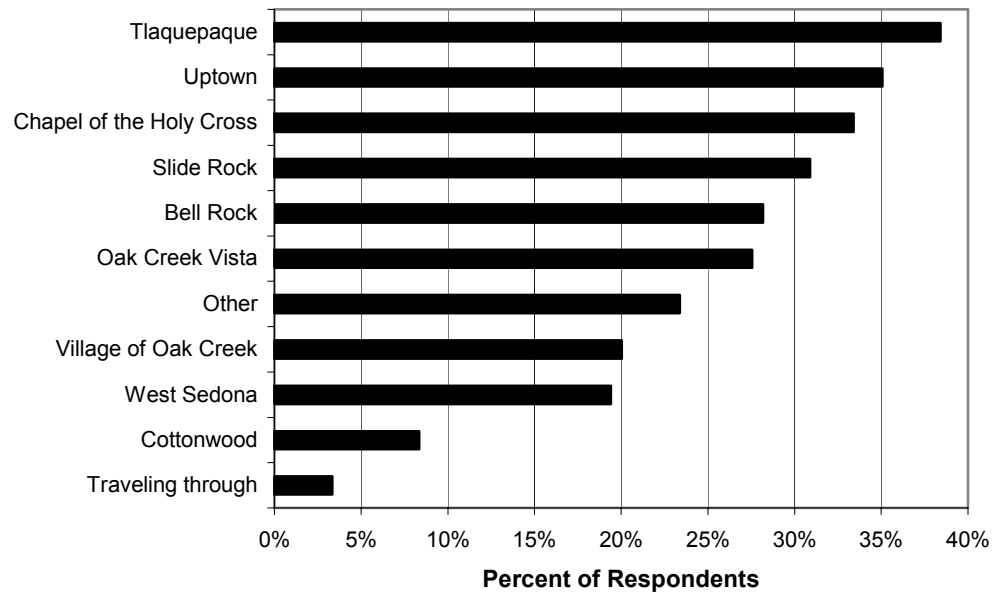
Residents and visitors were asked to identify the locations they were planning to visit on the day of the survey. As shown in Figure 4-13, the majority of residents were traveling to West Sedona, Uptown, or the Village of Oak Creek. For visitors, the most popular destinations were Tlaquepaque, Uptown, Chapel of the Holy Cross, Slide Rock State Park, Bell Rock, and Oak Creek Vista, as shown in Figure 4-14.

**Figure 4-13 Resident Destinations**



Note: Respondents could select multiple destinations; consequently, percentages do not add to 100.

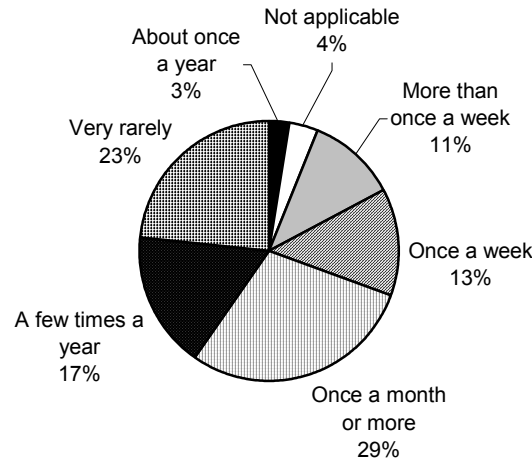
**Figure 4-14 Visitor Destinations**



Note: Respondents could select multiple destinations; consequently, percentages do not add to 100.

Residents were also asked how frequently they visit Oak Creek Canyon for hiking or other recreational activities. Approximately 54 percent of Sedona area residents visit Oak Creek Canyon on a regular basis (once a month or more), as shown in Figure 4-15.

**Figure 4-15 Visits to Oak Creek Canyon**



Both residents and visitors were asked whether or not they would be returning to their point of origin at the end of their trip. Relatively few residents (only 12 percent) stated that they would be traveling to another location, while nearly one-third of visitors stated that they would be traveling elsewhere rather than returning to their point of origin. This is a critical issue for shuttle planning, as those who are continuing to another location are unlikely to use the shuttle for a loop through the canyon. Of those visitors who were traveling on to another location, eight percent stated that they were traveling to Flagstaff and 14 percent stated that they were traveling to the Grand Canyon.

**Figure 4-16 Return Trips**

At the end of your trip will you:	Residents		Visitors	
	Responses	Percent	Responses	Percent
Return to the place your trip started	176	88%	336	72%
Travel to another location	23	12%	133	28%
<b>Total</b>	<b>199</b>	<b>100%</b>	<b>469</b>	<b>100%</b>

## Trip Purpose

The majority of resident trips were made for either shopping or work, as shown in Figure 4-17. There was a statistically significant difference between resident trip purposes on Sunday and Monday. As one might expect, recreation trips were substantially lower on Monday (31 percent on Sunday compared with 5 percent on Monday), and work trips were higher (22 percent on Sunday compared with 34 percent on Monday).

Visitor trips were overwhelmingly oriented around touring and sightseeing, with 72 percent of visitors citing this as one of the main purposes of their trip. Shopping was the second most cited trip purpose, but only 21 percent of visitors, compared with 48 percent of residents, reported this as a main trip purpose.

**Figure 4-17 Residents' Trip Purpose**

Trip Purpose	Number of Responses	Percent
Shopping	96	48%
Work	57	29%
Other	39	20%
Recreation	35	18%
Social	19	10%
Medical	10	5%
Education	6	3%
<b>Total Respondents</b>	<b>199</b>	<b>100%</b>

Note: Respondents could select multiple trip purposes; consequently, percentages do not add to 100.

Trip Purpose	Sunday		Monday	
	Responses	Percent	Responses	Percent
Shopping	31	37%	51	44%
Recreation	26	31%	6	5%
Work	18	22%	39	34%
Social	4	5%	3	3%
Other	3	4%	13	11%
Education	1	1%	0	n/a
Medical	0	n/a	4	3%
<b>Total</b>	<b>83</b>	<b>100%</b>	<b>116</b>	<b>100%</b>

**Figure 4-18 Visitors' Trip Purpose**

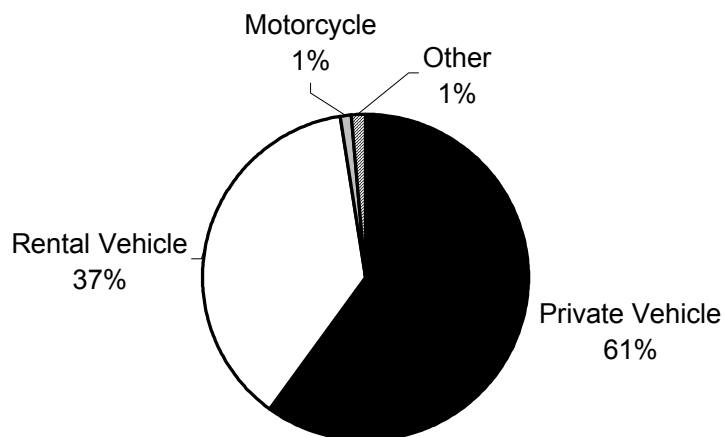
Trip Purpose	Number of Responses	Percent
Touring/Sight-seeing	343	72%
Shopping	99	21%
Hiking/Running	63	13%
Eating	50	10%
Other	49	10%
Oak Creek Canyon	29	6%
Traveling Through	27	6%
Visiting locals	17	4%
Spiritual	15	3%
Biking	13	3%
Swimming	13	3%
Camping	7	1%
Fishing	4	1%
<b>Total Respondents</b>	<b>479</b>	<b>100%</b>

Note: Respondents could select multiple trip purposes; consequently, percentages do not add to 100.

### Transportation Mode

Only visitors were asked about their main mode of transportation on the day of the survey. Ninety-eight percent drove either a private or rental vehicle, as shown in Figure 4-19.

**Figure 4-19 Visitors' Main Transportation Mode**



## Preferences for Potential Shuttle Services

Residents and visitors were asked a series of questions to ascertain their preferences for different amenities that could be provided on an Oak Creek Canyon shuttle, their need for storing different types of equipment, and different factors that might affect their desire to use a shuttle that would primarily serve the City of Sedona, and one that would primarily serve Oak Creek Canyon.

### Shuttle Amenities

Most important for both residents and visitors was that shuttle service to Oak Creek Canyon be accessible to those with disabilities, that the shuttle be able to stop anywhere on route, and that the fare to use the service be low. Least important to both groups was having space to store large items. Residents felt that having an audio presentation or guided tour was much less important than did visitors. They also placed less importance on the ability of the shuttle to pick them up from their lodging than did visitors. Figure 4-20 provides a summary of residents' and visitors' preferences for different shuttle amenities.

**Figure 4-20 Preferences for Shuttle Amenities**

	Percent of Respondents
<b>Storage for large items</b>	
Very Important	15%
Not at all important	45%
<b>Accessible for those with disabilities</b>	
Very Important	50% ✓
Not at all important	19%
<b>Seat comfort and leg room</b>	
Very Important	36% ✓
Not at all important	10%
<b>Audio Presentation/Guided Tour</b>	
Very Important	15%
Not at all important	35%
<b>Length of time on bus</b>	
Very Important	26% ✓
Not at all important	14%
<b>Ability to take bus from lodging</b>	
Very Important	37% ✓
Not at all important	19%
<b>Ability to stop anywhere on route</b>	
Very Important	46% ✓
Not at all important	15%
<b>Low fare</b>	
Very Important	56% ✓
Not at all important	8%

## Equipment

To find out what types of equipment storage might be required on a shuttle service, visitors were asked about items they were carrying. Seventy-three percent stated that they did not bring anything other than purses, knapsacks, and cameras. Twenty percent brought ice chests and coolers, and fewer than five percent brought either camping gear, bicycles, strollers, or wheelchairs.

**Figure 4-21 Equipment Carried by Visitors**

Equipment Carried by Visitors	Number of Responses	Percent
None	350	73%
Ice chest or cooler	95	20%
Camping gear	20	4%
Other	19	4%
Bicycle	15	3%
Stroller	9	2%
Wheelchair	4	1%
Total	479	100%

Note: Respondents could select multiple types of equipment; consequently, percentages do not add to 100.

## City Shuttle

Features considered most influential in determining use of a city shuttle by both residents and visitors were the difficulty of finding parking and the shuttle fare. Residents were more sensitive to higher fares than visitors. While over 70 percent of both groups said they would use the shuttle if the fare were \$1 or less, only 47 percent of residents said that they would use the shuttle if the fare was two dollars or less (compared to 66 percent for visitors). Visitors appeared more sensitive to service frequency, with 71 percent (compared with 65 percent of residents) stating that they would use the shuttle if it ran more frequently than every 15 minutes. Nearly twenty percent of residents or visitors stated that they would not use the shuttle under any circumstances.

**Figure 4-22 City Shuttle Usage**

	Residents		Visitors	
	Responses	Percent	Responses	Percent
Use it if it ran more frequently	125	65%	323	70%
Use it if there was a charge for parking in the city	111	58%	266	60%
Use it if parking were more difficult to find	133	71%	318	70%
Use it if it was free	147	77%	360	77%
Use it if the fare was \$1 or less	136	72%	350	75%
Use it if the fare was \$2 or less	89	47%	296	64%

	Residents		Visitors	
	Responses	Percent	Responses	Percent
Would not use the shuttle under any circumstances	31	16%	87	18%

### **Canyon Shuttle**

The most influential factor affecting projected use of the canyon shuttle was whether or not the service would be free. Only a minority of residents and visitors were willing to use the shuttle if the fare was up to five dollars, and only 41 percent of residents were willing to use the shuttle if the fare was up to three dollars. Like the city shuttle, people were more likely to use the canyon shuttle if it was more frequent than every 30 minutes and if there were fees for parking. Almost 20 percent of residents, but only 14 percent of visitors, stated that they would not use the shuttle under any circumstances.

**Figure 4-23 Canyon Shuttle Usage**

	Residents		Visitors	
	Responses	Percent	Responses	Percent
Use it if it ran more frequently	99	64%	333	71%
Use it if there were parking fees	92	62%	292	64%
Use it if the shuttle were free	116	77%	382	82%
Use it if the fare was \$3 or less	62	41%	336	73%
Use it if the fare was \$5 or less	18	12%	153	34%

	Residents		Visitors	
	Responses	Percent	Responses	Percent
Would not use the shuttle under any circumstances	29	19%	66	14%

For both the city and canyon shuttles, residents and visitors who responded to the survey during low season indicated that parking fees and restrictions were not a particularly strong incentive to use the shuttle. Approximately 45 percent of visitors and residents surveyed during the low season stated that they would be more like to use a city shuttle if there was a charge for parking or if parking was more difficult to find. Only 25 percent of visitors surveyed during the low season stated that parking fees may increase the attractiveness of a canyon shuttle. The difference in responses between the low and high season surveys may be due to the fact that parking is more scarce during the high season (due to greater numbers of visitors), and therefore a more important issue to both residents and visitors.

### **Parking Restrictions and Transportation Problems**

As discussed previously, parking fees may make a shuttle more attractive to both residents and visitors. Respondents were also asked how the restriction of parking along the highway and at key locations might affect their use of a shuttle. Sixty percent of residents and 72 percent of visitors surveyed stated that they would take a shuttle in the event of parking restrictions. Only 16 percent of residents and ten percent of visitors said that they would avoid traveling to the area.

Problems traveling in the area with their current transportation mode (primarily driving) may provide residents and visitors with another reason for using a shuttle. Overall, very few residents or visitors experienced transportation problems during the survey period. Eighty-four percent of residents and 81 percent of visitors stated that they had no transportation problems. Of those residents and visitors who did have problems, most cited congestion as the source. Difficulty finding parking was more of a problem for visitors than for residents. For visitors who experienced transportation problems, only nine percent felt that such problems affected the quality of their experience.

### **Additional Respondent Comments**

In addition to the quantitative data presented above, many survey respondents provided comments on the feasibility of shuttle service. Following are some of the more common comments received.

#### **Vehicle Amenities**

- “The shuttle should provide for pets and bikes.”
- “Vehicles need to be air-conditioned.”
- “Pets on leashes should be allowed on the buses.”
- “Vehicle needs to be designed to allow sightseeing.”
- “Vehicles should be electric or low-emission.”
- “There needs to be room on the shuttle for knapsacks and hiking stuff.”
- “There should be bike racks.”

## **Service Features**

- “Bus service between the Village of Oak Creek and Sedona is needed. Between Cottonwood and Sedona is even more important.”
- “The bus should go to Flagstaff.”
- “It’s a great idea if it’s affordable. Everything here is overpriced.”
- “A shuttle between Sedona and the Village of Oak Creek is needed. Sedona into the canyon is not.”
- “Shuttle should travel to Cottonwood.”
- “Can see using it to go to Walgreens, the Post Office at the Y and then to the grocery store on a regular basis.”
- “There should be a daily or three-day pass.”
- “It would be good only if the fee includes all places, all day, even if it is more expensive.”
- “It needs to stop at campgrounds.”
- “I would like to get off and take pictures for five minutes and be able to catch another bus quickly. Instead of having to wait 30 minutes for another bus.”
- “I would need a large parking area to leave my vehicle.”
- “Tie the color of signs to the color of the shuttle. Make sure people know where it goes; design for easy use by older people.”

## **General**

- “This is important mostly to visitors. At the same time, I could see using something like this at times. Especially when company is in town.”
- “When I saw they might put in a shuttle service up the canyon and then cut off parking there, I changed my “vote” as a protest.”
- “I understand the congestion problem, but I also like the freedom of a car.”
- “Locals will not use it. The need is for a unique “people moving system” that would in itself be a tourist attraction.”
- “I lived in the canyon. It’s scary to drive there because of traffic. A shuttle might help this.”
- “It would be a dream come true to have a shuttle into the canyon. I live there.”
- “A shuttle would help prevent visitors from getting lost.”
- “A shuttle is a good idea to keep the Sedona experience affordable.”

- “I would stop coming if I had to take a shuttle. I’ve been coming for ten years. I’m opposed to the Red Rock Pass. The money doesn’t go to keep the trails clean. They are dirtier than ever. Would the shuttle fares be the same way?”
- “If it cuts down on traffic, it would be good.”
- “I used the Grand Canyon shuttle and it worked out fine.”
- “It would be foolish to shut off parking for out-of-state visitors who rent or drive cars.”
- “Evening runs would be nice. So you can drink at restaurants and then not drive.”
- “I’m an environmentalist, and it’s a good idea to limit cars. But today I wouldn’t use it.”
- “I prefer to drive my own vehicle.”
- “I’m traveling with my elderly father who uses a wheelchair; it’s easier to take my own vehicle than a shuttle.”
- “Being a local, I would not use a shuttle. However, if I was a tourist I probably would.”
- “I think it's great, but please leave parking for residents.”
- “I think a shuttle is needed both for residents and visitors.”
- “I would use a shuttle from the Village of Oak Creek to Tlaquepaque where I work if it was close to my work hours, close to my home and efficient.”

## **Chapter 5. Peer Survey**

This chapter presents the results of a peer review of shuttle services operating in communities which share similar characteristics to Sedona. Most of the peers were selected because they operate transit shuttle services from gateway communities into national parks and recreational areas, or because they rely largely on tourism. However, systems in two additional cities – Flagstaff and Cottonwood – were included in the review because of their proximity to Sedona. These two examples, while largely based on resident usage, provide valuable information about local conditions with regard to operating costs and funding mechanisms, in addition to residents' propensity to use transportation services.

This chapter presents the results of telephone interviews with operators and administrators of shuttle services regarding the following service parameters:

- Type of service provided;
- Level of ridership;
- Costs to provide service;
- Funding sources used;
- Use of park and ride lots; and
- Organizational structure used to provide service.

The following peers were contacted as part of the study:

- Acadia National Park;
- Zion National Park;
- Yosemite National Park;
- Sabino Canyon National Recreation Area;
- Eureka Springs;
- Flagstaff, and
- Cottonwood.

## **Overview of Systems**

The peer review highlights the following key points:

- The most successful systems prohibit or limit automobile access, while providing transit as the only available transportation option;
- The percentage of total visitors using shuttle service is low when use of private automobile is an option;
- Most systems operate on headways of 30 minutes or more;
- There is a wide range in the fares charged on tourist-oriented transit systems;
- Marketing to potential visitors is key to success; and
- There is a variety of funding models for shuttle systems, although most rely on a mix of Federal transportation and air quality funds, National Park Service, contributions by gateway communities, and, to a minimal degree, farebox revenues (with the exception of Sabino Canyon).

Key data are summarized in Figure 5-1. The following section provides detailed information on each peer.

**Figure 5-1 Summary Of Peer System Services**

Peer	Attraction(s)/ Service Type	Service Dates <sup>1</sup>	Annual Ridership <sup>2</sup>	Passenger Fares	No. of Vehicles	Annual Visitors (% using shuttle)	Length of Trip (mi./min. roundtrip)	Frequency of operation	Staging Area Parking
Acadia NP	Hiking, Sightseeing	Last week of June through Labor Day	200,000	Free	17	3,000,000 (3.3% <sup>3</sup> )	six routes of varied length (3 to 50 miles)	30 min –90 min based on route	None, all at local lodging
Zion NP	Hiking, Sightseeing	March through October <sup>4</sup>	2,100,000	Free	30 (21 w/ trailers)	2,500,000 (22% <sup>5</sup> )	6/30 to park 16/96 in park	10 min to park 6 min in park	450 in lot 300 in campgrounds
Yosemite NP (YARTS)	Hiking, Sightseeing	Year round 2 daily & 2 weekend routes	32,284	\$7 - \$20	6	4,000,000 (Less than 1%)	four routes of varied length (23 to 100 miles)	11 runs per day	None during demonstration project.
Sabino Canyon NRA	Hiking, Sightseeing	Year round	225,000	\$6 adult \$2.50 child	6	1,500,000 (15%)	7.6/50	30 min weekends and Jan-June; 60 min July - Dec	402
Eureka Springs, AR	Sightseeing, Recreation	March - December	262,795	\$1.00	12	N/A	5 routes of varied length (8 to 16 miles)	20 min	300 (Historic District)
Flagstaff, AZ	General Public Fixed Route and DAR	Year round	148,884	\$0.75 adult \$0.60 child \$0.35 senior/disabled	Mountain Line: 8  VanGo: 12	N/A	55 minutes	60 minutes	N/A
Cottonwood Area Transportation System	General Public DAR	Year round	31,881	\$1.50 \$2.00 (beyond city limits)	5	N/A	N/A	N/A	N/A

1 Daily unless noted.

2 Ridership based on individual boardings.

3 Based on two boardings per visitor except in Zion NP.

4 Automobiles are not allowed in Zion canyon.

5 Shuttle ridership is 90% visitors, 10% residents. Visitors average 3.5 boardings.

## **Acadia National Park**

Island Express operates seven shuttle routes within Acadia National Park and to neighboring gateway communities on Mount Desert Island, population 9,600, in Maine. 1999 was the first year of operation for this service. The routes vary from a three-mile roundtrip between the Bar Harbor Village Green and the Ferry Terminal, just to the north; to a 42-mile roundtrip between Bar Harbor and Southwest Harbor, Tremont and the many campgrounds in the southern part of the park. These routes serve a large number of hotels/motels and campgrounds. The park averages just under three million visitors a year.

In 1999, Island Express operated for 76 days and carried 140,900 passengers. Ridership was up 42 percent to about 200,000 in the 2000 season, at a cost of about \$31 per hour. A survey of riders indicates that 84 percent of the passengers are visitors with seasonal and year-round residents making up the remaining 16 percent.

The shuttle service is widely supported as it:

- Helps reduce air pollution in the park;
- Reduces the possibility of having to close the park due to extreme congestion and lack of parking; and
- Reduces congestion in the gateway communities.

The service operates from the last week of June through Labor Day. Hours of operation and frequency of buses vary by route. The route to Southwest Harbor makes nine trips a day with about 90 minutes between runs. The shuttle in Bar Harbor runs from 7:00 AM until 12:00 AM with 15- or 30-minute frequencies. Island Express uses 17, 28-seat propane-fueled Blue Bird Transhuttle buses for the service.

Mount Desert Island does not have any land available for parking lots or staging areas for shuttle riders. The routes were designed to pick up passengers at campgrounds and lodging facilities as traffic congestion in the park worsened. This is particularly true during the peak periods of July and August, when Acadia sees approximately three to four million visitors. At present, there are no additional traffic restrictions, outside of the standard National Park entrance fees. Further traffic restrictions will be considered once suitable alternative transportation can be provided. The current shuttle system lacks adequate capacity to handle all visitors.

The shuttle system is free to riders. A wide range of partners combine to fund the shuttle operation. The National Park Service is contributing \$200,000 toward operation this season along with another \$50,000 for planning, administration and marketing. The initial eight buses were procured with \$628,000 in federal Congestion Management Air Quality (CMAQ) funds. The last nine buses were bought with Federal Lands Highway Program Funds. The local component, and match for the CMAQ funds, come from Mount Island communities of Bar Harbor (\$30,000 in 2000), Mount Desert (\$14,000 in 2000), Southwest

Harbor (\$10,000 in 2000) and Tremont (\$3,000 in 2000). These communities approved these general fund expenditures at annual town meetings.

Prior to service startup in 1999, Friends of Acadia issued a challenge grant of \$30,000 that was matched by the four local communities. Over the last three years, the friends group has contributed \$100,000 toward park transportation (including \$13,500 for a now discontinued campground shuttle). Friends of Acadia uses most of its unrestricted funds (membership dues and general donations) for transportation projects to reduce air pollution and meet its overall goal to preserve and protect Acadia National Park and the communities that surround it. Additional funds come from nine campgrounds and six hotels that contribute up to \$2,000 per season as negotiated by the consultant performing planning and administrative functions. Bar Harbor has a committee investigating use of a "Parking Deficient Fund", which would generate revenue from future development with less than the required parking base, to fund local transit. The shuttle has operating costs of \$400,000 per season.

Downeast Transportation operates the Island Express. Downeast is a nonprofit organization that operates some regular public transportation services in the region. The idea of tourist-based transportation came from the local League of Towns. The League in partnership with the Park Service, Downeast, local businesses and Friends of Acadia oversee the operation of the Island Express.

Friends of Acadia provided additional support by helping promote the shuttle. Friends' volunteers and interns helped distribute initial marketing information to local businesses and provided customer assistance at the main transfer center in Bar Harbor during the first year. Friends' goal is to provide funding and assistance during startup only. The shuttle has an extensive web page detailing each route and user information.

## **Zion National Park**

To address growing traffic congestion and the deterioration of the park experience, Zion National Park now bans automobiles within the canyon. Zion Transportation System provides a two-route shuttle service in Zion National Park as well as between Springdale, Utah and the park. One fixed route has six stops in the town of Springdale, population 300, and travels the 2.9 miles to the park visitor center and nearby campgrounds. The other route is a 16.4-mile loop within the park, stopping at nine locations en route. Except for visitors staying at the lodge, visitors may not bring their automobiles into the park. Parking is available at the visitor center and at the co-located campgrounds, but fills up as early as 10:00 AM during busy periods such as Memorial Day Weekend.

Zion National Park attracts about 2.5 million visitors per year. While ridership on the Transportation System was projected at 1.5 million passengers annually, last year the system carried over 2.1 million. About 90 percent of visitors are tourists, while about ten percent are local residents

The ban on automobiles in the canyon and use of the shuttle system are addressing problems associated with:

- Traffic congestion
- Lack of parking places;
- Air and noise pollution; and
- Damage to natural resources.

The service started the last week of May 2000. In future years, the shuttles will operate from March through October. Service is provided from 10:00 AM until 6:00 PM. The shuttle to the park takes 30 minutes to complete a roundtrip and has 10-minute headways. The park loop takes 96 minutes and a bus comes every six minutes. A total of 30 vehicles, each with seating capacity for 31 riders, are used in the park. Of these, 21 pull an additional 30-foot trailer. The park loop vehicles pull a second 37-seat trailer bus. The park loop is not narrated, but drivers are trained to assist visitors regarding the areas where the bus stops.

Ten times as many people board the park loop as use the shuttle from Springdale. There is no dedicated parking for the shuttle in town. The lack of parking in town is not seen as a problem. Side streets are used for shuttle parking only on the busiest days. Parking at the visitor center has been increased to provide 450 automobiles and 50 RV spaces. An additional 300 parking spaces are available in the nearby campgrounds and most campers walk to the visitor center to use the park loop. Parking for cars appears to be adequate but the number of RVs and tour buses has exceeded the available parking at times.

The system is fare-less. Park entrance fees, collected at the visitor center cover the operating costs for the system. Groups pay \$20 and individuals pay \$10. Extensive capital improvements were made in conjunction with the startup of shuttle service. Vehicles, a new transportation center at the visitor center, bus shelters in Springdale and vehicle maintenance facilities were funded by over \$26 million from federal programs. The largest share, \$19 million, from a congressional line item. Other sources included the Federal Lands Highway Program, NPS Fee Demo funds and TEA-21 enhancement program. Springdale did not contribute towards operating costs but maintains the bus shelters in town.

First year costs were projected at \$1.9 million and subsequent years at \$2.3 million. Most of this goes to McDonald Transit to operate the vehicles at a cost of \$41.95 per hour. The system carries about 48 passengers per hour, but during busy periods like the Memorial Day Holiday can carry as many as 88 passengers per hour. Initial feedback has been positive with some minor complaints about the size of the vehicle windows and the need for storage lockers at the visitor center.

Most local businesses support the service. Souvenir shops owners do not see many changes in shopping habits but restaurateurs in Springdale see both increased business and

a change in visitor patterns. Historically, visitors would only stop at the park for a quick visit, then continue onto other locations. The lack of parking in the park contributed to the pattern. With the shuttle, more people are spending an entire day at the park while lodging and eating in Springdale. Lunch business has dropped a little, but the number of breakfast and dinner guests has increased significantly.

## **Yosemite National Park (YARTS)**

Yosemite Area Regional Transportation System (YARTS) provides four fixed-route bus lines into Yosemite Valley as part of a two-year demonstration project. Connections are available to the Yosemite National Park shuttle in the valley. The route from Merced and Mariposa (77 and 40 miles from the valley floor Highway 140), is the most popular. Other routes originate in Coulterville (55 miles to the west on Highway 120), Wawona (23 miles away) and Mammoth Lakes (100 miles to the east on Highway 120). Stops are made en route at transportation facilities, lodging and campground facilities and tourist attractions.

Total ridership in FY 2000 was 31,900, including employees (who rode for free) and visitors. While employee ridership declined as a result of the removal of the free fare benefit in FY 2001, visitor ridership increased 15 percent, and the total ridership for that year was 32,284.

The demonstration service is voluntary and is intended to:

- Provide an alternative transportation choice for visitors, employees and residents;
- Reduce dependence upon single-family vehicles; and
- Improve upon the economic vitality of their communities, while maintaining the character of the region.

The service is year-round but schedules change seasonally to reflect demand. YARTS commenced service in May 2000. The Highway 140 Route makes 11 runs per day but does not stop at all distant locations on each run. Service starts at 5:30 AM in Mariposa and the last run arrives in the valley at 7:00 PM. Most of the service to Yosemite is provided in the morning hours to get visitors and employee into the park. Conversely, most of the return trips from the park are in the afternoon. The Wawona service makes two round trips per day. The Highway 120 East service provides one trip to the park in the morning and one from the park in the evening on weekends as does the Highway 120 West service.

Most YARTS vehicles are 44-passenger motorcoaches. Some smaller buses and vans may be used at periods of low demand. Connections to Greyhound are possible in Merced and Lee Vining (on the Highway 120 East route) and to Amtrak in Merced.

Most of the riders come from the Midpines area in Mariposa County and commute into the park for the day. Parking areas were not identified as part of the demonstration project as

most passengers are expected to originate from local lodging and residential establishments. Future plans that may ban cars from the valley floor will require additional shuttle parking within the park, but outside the valley.

Fares vary based on length of trip, ranging from \$7 to \$15 per person. Children and seniors pay one dollar less and the fare includes a one-day entrance fee to the park. Tickets must be purchased at ticket outlets prior to boarding the bus. Contracted operators keep all farebox revenue except for a one-dollar commission paid to the ticket outlets. The commission is split between the hotel/motel, where the ticket is sold, and a YARTS public information representative.

As farebox revenue does not cover costs, Yosemite National Park subsidized the prime operator for \$250,000 a year. About \$100,000 of this subsidy covers the cost of transporting Park employees. Local CMAQ (\$50,000) and the Mariposa Transient Occupancy Tax (TOT) fund administrative costs. The system operates at a cost of approximately \$88.70 per hour.

A Joint Powers Authority (JPA) governs YARTS. The JPA is a state of California-empowered transportation authority and has membership from Mariposa, Merced, and Mono, the gateway counties. YARTS entered into a cooperative agreement with the National Park service to define each party's responsibilities for the two-year demonstration project. The agreement defines YARTS duties as:

- Planning, design, and implementation of regional transit service;
- Preparing a capital and service plan, budget, and financial plan; and
- Committing to fund the transit service.

The agreement calls for the NPS to:

- Contribute funding for transit service;
- Guarantee access to YARTS transit vehicles;
- Coordinate with in-Park shuttles;
- Reduce entrance fees for YARTS riders;
- Develop a Yosemite NP/YCS employee transportation program;
- Consider and incorporate YARTS service needs into Park planning; and
- Promote transit service including coverage in park publications.

YARTS markets the service through:

- Published bus schedules with extensive ride information;
- YARTS web page;

- Toll free telephone number;
- Highway advisory radio system; and
- Local and regional visitors' bureaus and chambers.

Park and concessionaire employees are encouraged to use the system through regular outreach to employee groups.

## **Sabino Canyon National Recreation Area**

Sabino Canyon National Recreation Area offers shuttle rides for visitors to this scenic attraction just outside of Tucson. The narrated 7.6-mile roundtrip route takes between 45 and 50 minutes to complete. The service operates on a restricted road, providing the only motorized transportation option. The shuttle offers moonlight rides three times a month from April through December on a reservation basis. About 1.5 million people visit the recreation area each year.

The shuttle uses an open-air articulated tram for the service and operates 365 days a year. Service requires six vehicles that hold anywhere from 48 to 67 passengers. Shuttles are available every thirty minutes from 9:00 AM until 4:00 PM on weekends and during the busy period of January through June. Hourly service is available the rest of the time.

All of the 225,000 annual riders park in the 402 space parking area at a cost of \$5 per day or \$20 per week. Parking demand exceeds lot capacity on a few days a year when visitors park on the shoulders of the entrance road. Some visitors take the shuttle for tours of the recreation area, never de-boarding the tram. Others alight and reboard after exploring surrounding areas.

Adults pay \$6 for the tour, children \$2.50. The shuttle costs about \$1 million to operate, or \$4.40 per passenger. Sabino Canyon Tours has a contract with the Forest Service to operate the shuttle. It keeps all the fare revenue and earns about \$0.25 per rider as it owns and maintains all of the equipment. The Forest Service does not subsidize the service.

Informational brochures produced by the recreation area and its webpage promote the shuttle as an attraction.

## **Eureka Springs Transit System**

Eureka Springs, located in the Ozark Mountains of Arkansas, began attracting residents to its mineral springs in the late 1880s. With the introduction of a new rail line, the town boomed, and soon became a luxury resort community. Visitors are drawn by the mineral springs, the historic downtown, and the scenic beauty of the area. While the local population numbers only about 2,200 residents, it is visited by about 10,000 tourists per month during the peak season from May to October.

The city's existing public transit system carries about 263,000 riders annually, approximately 95 percent of whom are tourists. The system was modeled after the earlier electrified trolley system. It currently operates along five routes using historic trolleys that are themselves an important attraction, similar to San Francisco's cable cars. These routes cover the downtown historic district, as well as peripheral shopping centers, hotels and other attractions that lie beyond downtown. The routes, ranging in length from a five-mile historic loop route to a sixteen mile round-trip route, operate on approximately 20-minute headways.

Services operate seasonally, with a winter break and partial service through April. May through October the trolley runs seven days per week. Using eight historic trolleys and three trams with trailers, services run from 9:00 AM – 5:00 PM weekdays, and 9:00 AM - 8:00 PM on weekends. The service costs about \$300,000 per year. Revenues come from the Federal Transit Administration \$5311 funds, passenger fares, and the Arkansas Department of Transportation.

The trolley system is very successful, thanks largely to parking scarcity downtown. Eureka Springs has only about 400 parking spaces downtown. Additionally, the city has banned large tour buses within its historic district due to narrow roads. While abundant peripheral parking exists at the hotels located along Highway 62 running east and west of town, as well as at shopping malls and the local convention center, limited parking downtown makes the trolleys an excellent transportation option. At the same time, the historic sites – architecturally significant buildings – lend themselves to viewing from an open-air trolley that recreates a historic experience.

Another factor contributing to the trolley's success is that it has formed important partnerships with local businesses. For example, hotels buy tickets in bulk at a discount of \$0.25 per ticket. By selling tickets to guests, larger hotels can generate up to \$1,000 per year. At the same time, a large local shopping mall also offers parking for visitors boarding the trolley. The idea behind the agreement is that visitors will take advantage of the shopping center before or after riding the trolley – the mall essentially serves as a staging area.

## **Flagstaff Mountain Line**

Flagstaff is the population center of Coconino County, located in the central region of northern Arizona. With an area of 18,608 square miles, it is the second largest county in the continental United States. However, the county's population is only about 121,000 residents, of which about half live in the City of Flagstaff. The region incorporates many areas of natural beauty, including the Grand Canyon National Park. About 37 percent consists of Indian reservation land. Of the remaining land area, the U.S. Forest Service and the Bureau of Land Management control 32 percent, the State of Arizona ten percent, other public lands seven percent, and 14 percent is owned by individuals or corporations.

Flagstaff's transit service, known as Mountain Line, provides both fixed route and ADA dial-a-ride service. In contrast to the previous peers in this review, the service is primarily geared towards locals, rather than visitors. Mountain Line offers fixed route services that stop at designated locations throughout the City of Flagstaff. Its four routes run from approximately 6:15 AM until 10:00 PM weekdays, covering downtown Flagstaff, Northern Arizona University to the south, Coconino Community College to the north and Flagstaff Mall to east. Saturday and holiday service runs from approximately 7:20 AM until 5:15 PM.

Fares range from \$0.75 for a full-fare adult to \$0.35 for seniors (age 60 and older), Medicare recipients and disabled riders. Children ages seven to seventeen ride for \$0.60. Monthly passes cost \$26 for adults, \$13 for seniors, Medicare recipients and the disabled; child passes cost \$20. The system carries approximately 150,000 annual riders, with an operating cost of \$910,000 (\$52.36 per service hour). Mountain Line expects to operate about 17,400 hours in FY02.

In addition to its fixed route system, Flagstaff also provides ADA paratransit services through VanGo. It also offers general public dial-a-ride services on a limited, space-available basis. Fares range from \$1 within the ADA boundary to \$2.00 for travel beyond the boundary.

Ridership on the Mountain Line system remains fairly low, at about 600 riders per day (or about 150,000 annually). However, this represents a significant increase over the daily ridership of 400 which existed before the significant service expansion in October, 2001. The County is contemplating further expansion during the coming year, including the creation of a downtown circulator and improving headways to 30 minutes during rush hour. These service expansions are made possible by a half-cent sales tax that was approved by over 50 percent of the voters in May, 2000.

## **Cottonwood Area Transportation System**

The Cottonwood Area Transportation System (CATS) is a general public dial-a-ride (DAR) transportation system. This differs from the services of the other peers that predominately serve limited-access tourist destinations. CATS serves a population of about 7,800 residents, and provides about 32,000 trips annually.

CATS operates Monday through Friday from 7:00 AM – 4:45 PM, and on Saturdays from 9:00 AM – 2:00 PM. Service is provided with five lift-equipped 14-passenger vans. CATS charges \$1.50 each way for rides within Cottonwood, and \$2.00 for rides beyond the Cottonwood city limits. In addition to its DAR operations, CATS recently implemented a new deviated fixed route system in January 2002.

While traffic congestion imposes problems, this is largely seasonal due to tourists traveling to Sedona. Other local traffic generators include schools and a large cement plant. CATS functions more as a social service than as a transportation alternative, resulting in a low

productivity of about 0.4 persons per hour. The elderly and disabled population comprise 36 percent of ridership, while students ages 4-12 make up about 33 percent. CATS also contracts with social services for the developmentally disabled.

CATS has an annual operating cost of approximately \$345,000 (or \$40.31 per revenue hour) and is funded by the State of Arizona, the City of Cottonwood, and both Clarksdale and Yavapai Counties. The system also receives FTA \$5311 funds. The state mandates a farebox recovery ratio of 17 percent. All agency personnel are City of Cottonwood employees.

## **Conclusions**

The peer systems offer interesting insights into the conditions which either encourage or discourage substantial shuttle usage. YARTS (in Yosemite) and Zion represent two ends of the spectrum in this analysis. On the one hand, YARTS operates a system that is expensive both to the operator and the rider (due primarily to the long distance traveled), has no intercept parking, and serves a scenic area which does not prohibit parking. In contrast, the Zion system is mandatory, free to the rider, operates on a short loop, and provides intercept parking. While Yosemite has almost twice as many visitors, the annual ridership at Zion is over two million, while at Yosemite it barely exceeds 30,000.

The success of these two systems should not be based on ridership figures alone, as they may have been designed to meet different goals. However, in the context of the Sedona shuttle project, where the stated goals are to reduce auto congestion and associated environmental impacts, and enhance the visitors' experience to the area, there are a number of factors suggested by the peer review which would clearly support these goals. These include free shuttle service, restrictions on auto use, shortened trip lengths, frequent service, and the availability of intercept parking. The operational, financial, and political feasibility of implementing these requirements in Sedona are explored more fully in other sections of this Existing Conditions report.

## **Chapter 6. Stakeholder Concerns and Suggestions**

In order to complement the data provided in the demographic analysis and the survey findings, the team also conducted in-depth interviews with nine key stakeholders in the community (an additional six individuals were contacted but not interviewed for a variety of reasons); two Steering Committee meetings; and an Advisory Committee meeting. The stakeholders represented a diverse array of viewpoints in the community, including representatives of: the tourism industry, the advocacy community, the medical care industry, the business community, elected officials (past and present), the recreational sector, and government agencies.

Following are the key concerns and suggestions that emerged from this stakeholder input process. It should be noted that these comments reflect only the opinions of stakeholders.

### **Service Needs**

- While most of the stakeholders believe that there is a need for transit service in Sedona, there were a number of key dissenting voices who questioned the likelihood of shuttle usage, particularly amongst tourists.
- Many stakeholders expressed concern that previous efforts had been built around the needs of tourists. They believe the primary market for service is bringing workers into Sedona from Cottonwood, Camp Verde, and other areas, and to a lesser extent local low-income transit riders.
- There was less unanimity about other markets. Those mentioned include:
  - West Sedona to Uptown, assuming that there would be little circulation between the two areas but that people would use it very locally, particularly low-income workers such as those in the hotel industry.
  - Uptown into the Canyon, especially as far as Slide Rock. There was some difference of opinion whether the route should go all the way to the top of the switchbacks. The view was expressed that running service all the way to the top would result in long trips (because of the distance and unpredictability of traffic), less frequent service, and wear and tear on the vehicles.
  - Uptown down 179 probably to the Village. It was noted that this is a particularly congested stretch of roadway and that some tourists, particularly older tourists, and older residents of the Village, may be interested in shuttle along this route.
  - Travel to Camp Verde, including the Indian gambling casino, which could possibly be a joint marketing opportunity.

- Those who believed there was potential demand felt that any service should be focused on the needs of residents and employers in Sedona, with tourist needs being a lower priority. Those who believe that tourists would use the shuttle caution against focusing exclusively on Oak Creek Canyon, and cite the Chapel and Red Rock Crossing as two other possible attractors.
- The idea of restricting parking and encouraging shuttle use should be “sold” to the community in terms of the improvement to the visitor’s experience of having less congestion and less people walking along canyon roads in unsafe locations. These could lead to an improvement in the appeal of the Red Rock area to tourists, and therefore, greater tourist revenues.
- In the view of one stakeholder, the success of a shuttle in the canyon is entirely dependent on the ability to eliminate parking in the many illegal and unsafe areas currently used by drivers. If parking control efforts were only limited to the designated parking areas, drivers would simply expand their use of the other locations dispersed throughout the canyon.
- Previous attempts at running shuttle service to special events have always been costly and not very well used. There is a good level of commitment to the “cause” of transit, but practically, it has not been a big success. Some expressed concern about the impact of a tourism oriented shuttle on the current transportation options; namely, three taxi companies, a shuttle, and a trolley.
- Support was mixed for intercept parking on the perimeters of Sedona as a way of making transit viable by “capturing” tourists. Others felt that restricting mobility of people who come to Sedona by car is very difficult. Stakeholders generally felt that the community would be mixed in terms of the level of support that would be given locally to parking restrictions.
- There was general agreement that parking in Uptown and traffic conditions in the Canyon are a problem. There was also recognition that there are land use issues – spread out development and multiple uncontrolled driveways that make travel in the area difficult and at times dangerous.
- Some stakeholders thought that it was important for the system to be self-sustaining, but the majority seemed to agree that having low fares was more critical. Fares in the \$1 - \$1.50 range for individual tourists, \$5 per family per day, and monthly passes for residents were cited as viable options for fare levels.
- Stakeholders mentioned that finding and keeping drivers may be a problem due to the low driver wage levels and the lack of affordable housing in Sedona.

## **Key Amenities and Incentives to Use Transit**

### **Amenities/System Descriptors**

Stakeholders were asked what system amenities would make the service attractive to customers. Following are the highlights:

- Frequent and reliable service.
- Attractive buses with bike racks and big windows
- Low fares, and use of fare media such as day passes and monthly passes for employees.
- Attractive, safe and convenient parking lots that can be used to intercept day users and can be used for park and ride.
- Good public information, good marketing and joint marketing with local merchants, using coupons, etc.

### **Incentives**

Stakeholders also suggested that the following program features would create incentives for potential riders:

- Park and ride opportunities
- Limit parking availability in recreation areas
- Discounts for local riders
- Fee waiver for Slide Rock if you use transit
- Fee parking in recreation areas
- Fee parking in Uptown

## **Chapter 7. What the Data Tells Us**

- **Despite some reservations expressed by individual stakeholders, the concept of a shuttle service enjoys widespread support amongst both Sedona residents and visitors.**

This high level of support will likely be helpful when community members are asked to support policies that restrict auto usage.

- **While the Vision Report indicated that a broad-based shuttle serving both residents and visitors could divert very large numbers of riders, this was predicated on certain key assumptions:**

The vast majority of riders would be tourists, only through traffic in the canyon would be free, and parking fees would be imposed on all autos that stop in the canyon. Currently, it appears that only those policies that have relatively minimal impact, such as parking time limitations in Uptown and parking fees at key canyon locations, are likely to receive political support. A more realistic view of potential usage must therefore pay closer attention to the demographics of both residents and visitors, and broaden the scope to include inter-community service.

- **The potential tourist market is highly dependent on “supportive policies” and effective marketing.**

The majority of tourists are from out of state, and currently almost all use cars as there is no other option available. Despite this preponderance of car use and the commonly held perception of traffic congestion, the overwhelming majority of tourists indicated that they did not experience significant transportation problems on the day they were surveyed. This suggests that tourists are unlikely to be diverted from their cars unless there are strong disincentives for car use, such as restrictive parking policies and greater traffic congestion. These may be easier to implement along Highway 179 than in the canyon.

- **While there is likely to be some community opposition to parking restrictions, a surprisingly small percentage of survey respondents indicated that they would avoid traveling in the canyon if restrictions were in place.**

The question is whether they could be encouraged to use shuttle instead, or whether the combination of lack of parking and increased visitation would simply lead to more congested traffic conditions.

- **Peer systems suggest that where car access is allowed into a recreational area and a fare is charged, there is very low shuttle usage.**

The converse is also true – where auto access is not an option and there is no charge, the potential for shuttle ridership is tremendous. In the gateway communities under review, the successful shuttles were also largely dependent on very limited parking

availability. If shuttle in the canyon is going to succeed in diverting visitors from their cars, enforcing restrictions in the canyon on illegal and unsafe parking will be key.

- **There are numerous amenities that must be in place to attract visitors to the shuttle.**

Despite the apparent commitment to the auto described above, most tourists indicated that they would be willing to use a shuttle service, particularly if it was cheap (under \$2 in the City and under \$3 in the canyon), ran frequently, and allowed for numerous stops. They would also want to be able to purchase tickets easily, and to have plenty of parking available at intercept parking sites. They also confirmed that parking restrictions would be a significant incentive to use the shuttle. Significantly, less than 20 percent said they would not use the shuttle under any circumstances. This was true for both residents and visitors, and for both canyon and city shuttle usage.

- **Visitor-oriented shuttle service design should consider a range of other potential rider preferences.**

Innovative fare media such as day passes should be made easily available. Amenities such as storage space and an audio presentation are not important to potential users, but potential users are concerned that the buses be environmentally sound and aesthetically attractive. Since most visitors do travel to Uptown, this will need to be a key transfer point on a shuttle service design. More than one-quarter of visitors are traveling through to another destination, so they probably would not be considered part of the target canyon shuttle market, as they would not make the loop and then travel through the canyon again on their way to Flagstaff or the Grand Canyon. More than one-quarter of the visitors do visit the Vista Point, which presents significant operational challenges for any shuttle service.

- **For the visitor-oriented shuttle to succeed, significant marketing prior to the visitors' arrival will be essential.**

The use of the internet for this purpose has much potential. As part of this promotion of the shuttle, senior tourists should be considered a key target market, and there should be particular emphasis on Highway 179 destinations such as the Chapel and Bell Rock, in addition to the Uptown area, Tlaquepaque and Hillside shops.

- **Given the small population of local urbanized areas, no significant residential densities exist that could support extensive resident-oriented transit service.**

Development densities are usually strong indicators of potential transit usage. On the positive side, employment sites, in particular hotels and other tourist-oriented accommodations, are concentrated along the 179/89A corridor. This land use pattern favors transit service design. Some small residential concentrations of traditional transit users do exist, such as seniors and renters in the Coffee Pot, Red Rock East and Sedona North neighborhoods, but these are relatively limited. A proposed shuttle should take these neighborhoods into consideration in route design.

- **Demographic analyses indicate that there are small pockets in the local Sedona population that are traditionally considered potentially transit dependent.**

Although there is a high proportion of seniors in the area, the vast majority are probably car owners (given the very high levels of car ownership city-wide). Single parent households and renters are also only present in small numbers.

- **The potential commuter market from Cottonwood should be integrated into shuttle service design.**

While 5% of Sedona residents do not own a car, the rate is three times as high in Cottonwood. Moreover, there is a significant influx daily of workers from Cottonwood as job growth continues to outweigh the local Sedona labor force. For these reasons, the potential for tying any potential shuttle service to commute service from Cottonwood – and potential coordination with the CATS service - must be seriously examined.

- **Given the limited possibilities of significant auto restrictions, at least at the initial stage of shuttle service implementation, the prospect of a self-sustaining service is extremely remote.**

Significant non-fare funding will therefore be required. In order to generate local support for shuttle service, public outreach activities should emphasize the negative effects of projected traffic increases, and how these could be mitigated by shuttle service. This should then be tied to potential increases in tourism revenues resulting from the greater appeal of an uncongested Red Rock area.

- **Shuttle service for the Greater Sedona area appears to be feasible. However, unless significant auto access policies can be implemented both in the canyon and in the Uptown area, the most operationally and financially viable option for the service will differ from the original concept in a number of significant ways.**

Under these conditions, the proposed shuttle service should be targeted to local seniors and low-income riders; commuters from Cottonwood and Camp Verde; tourists traveling to destinations along Highway 179; and, to a lesser extent, tourists traveling in the canyon, at least as far as Slide Rock. If there is demonstrated support for more significant parking restrictions, particularly as congestion levels increase, service within the canyon should be greatly expanded.

## **Chapter 8. Next Steps**

The findings from this report will be presented to the Project Advisory Committee on June 3rd and the Steering Committee on June 4th. The team will then document the land use and parking policy issues that need to be taken into account in the development of alternative scenarios for shuttle implementation.

The team will be adopting a two-pronged approach to developing the different scenarios. We will present an alternative in which all or most of the “supportive policies” for transit usage are in place. These will include policies such as limiting parking to a few restricted and well-monitored locations inside the canyon, strongly enforcing parking restrictions elsewhere in the canyon, and charging for parking within the city of Sedona. Parking, particularly in the Uptown area, may also be time limited. This scenario will also assume extensive marketing of shuttle services to visitors both before and after they arrive in the area. It is anticipated that this scenario will most closely approximate the vision presented in the earlier “Vision Report”, although that document also included the possibility of restricting auto access into the canyon. This last option does not appear to be a viable alternative at this time.

Additional shuttle scenarios will also be presented. These will reflect conditions in which some or none of these supportive policies are in place, and will take into account short and long-term strategies. For each scenario, we will include a discussion of the required administrative structure and preliminary cost estimates. All these scenarios will be presented to the public in a series of workshops in the summer of 2002. Based on input from the public and another round of meetings with the Steering and Advisory Committees, the team will then develop an Operating Plan for the preferred option. This Plan will be presented to the appropriate decision-making bodies in the late Fall. The study is scheduled for completion by the end of 2002.

# **APPENDIX I**

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## SURVEY LOCATIONS

# Appendix I: Survey Locations

## Low Season Survey Locations

The most productive survey locations for visitors were at the Sedona Chamber of Commerce and hillside shops, whereas the Sedona Post Office and Walgreens yielded the greatest number of resident responses.

### Low Season Survey Locations and Number of Surveys Collected

Survey Locations	Residents	Visitors	Total	Sunday	Monday
Chamber of Commerce	5	50	55	X	X
Hillside Shops	9	37	46	X	X
Bell Rock	7	31	38	X	X
Cultural Park	21	15	36	X	X
Village of Oak Creek - Visitors Center	0	33	33	X	X
Post Office	25	7	32		X
Telaquepaque	4	21	25		X
Walgreen's	22	2	24		X
Slide Rock	2	22	24	X	X
Midgely Bridge	5	17	22	X	X
New Frontiers	8	3	11		X
Oak Creek Vista	1	5	6		X
Red Rock Crossing	1	5	6	X	
Airport Vista	0	4	4		X
Indian Gardens	2	0	2		X
Mail In	1	0	1		
Other	4	16	20		
<b>Total</b>	<b>117</b>	<b>268</b>	<b>385</b>		

## High Season Survey Locations

The most productive survey locations for visitor responses were Oak Creek Vista, Slide Rock and Tlaquepaque. The most productive locations for resident responses were New Frontiers, Walgreens, and the Post Office.

### High Season Survey Locations and Number of Surveys Collected

Survey Locations	Residents	Visitors	Total	Sunday	Monday
Tlaquepaque	12	54	66	X	X <sup>2</sup>
Indian Gardens	18	44	62	X	X <sup>1</sup>
Oak Creek Vista	1	57	58	X	X
New Frontiers	45	13	58	X	X
Walgreens	43	12	55	X	X
Slide Rock		54	54	X	X
Village of Oak Creek Visitors Center	12	39	51	X	X <sup>2</sup>
Chapel of the Holy Cross	1	45	46	X	X
Hillside Shops	12	31	43	X	X
Bell Rock	5	37	42	X	X
Post Office	40	2	42		X <sup>2</sup>
Crescent Moon Picnic Area	3	35	38	X	X
Chamber of Commerce Visitors Center	2	34	36	X	X
Airport Vista	3	17	20	X	
Cultural Park	2	12	14	X	
Midgley Bridge		2	2	X <sup>1</sup>	
<b>Total</b>	<b>199</b>	<b>488</b>	<b>687</b>		

Notes:

<sup>1</sup> Half day

<sup>2</sup> More than one surveyor for part or all of the day

## **APPENDIX II**

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### VISITOR SURVEY

## RED ROCK AREA VISITOR TRANSPORTATION SURVEY (WINTER 2002)

### Introduction

Good morning (afternoon). My name is \_\_\_\_\_ and I am doing a survey for the City of Sedona. We are looking at ways to improve travel access to this area, and would like to include your opinions.

### Screening Questions

**Have you been asked to complete another survey today (or yesterday)?**

No (Continue)

Yes (Thank you for your time)

**This survey will take less than ten minutes to complete and all your responses are strictly confidential. Would you be willing to help us with the survey today?**

Yes (Continue)

No (Thank you for your time)

### INTERVIEW

**1. Do you live:**

In the City of Sedona? (skip to Question 7)

Elsewhere in the Red Rock area? Where? \_\_\_\_\_ (skip to Question 7)

Somewhere else in Arizona?

Where would that be? \_\_\_\_\_

Out of state?

Outside of the U.S.? \_\_\_\_\_

**2. Is this your first visit to this area?**

Yes

No

**3. How did you get to the Sedona area?**

Fly/ rent a car

Drive/ rent a car from home

Drive own car from home

Fly/ take a shuttle or van  
Organized Tour  
Other:

---

**4. How long ago did you plan your trip to this area?**

Today	Yesterday	2 – 3 days
4 – 7 days	7+ days	

**5. How did you find out information about traveling in the Sedona area?**

Been here before  
On a tour  
Followed a map  
The Internet  
Brought by others  
Guidebook  
Suggestions from friends or relatives  
Suggestions from hotel or motel  
Travel agent  
Tourist Information Center  
Information from the US Forest Service  
Other: \_\_\_\_\_

**6. How long have you been/ do you plan to stay in the Red Rock area?**

Less than one hour	1 to 2 hours	Don't know
2 to 3 hours	More than 3 hours	More than one day/night

**7. Which of the following locations are you planning on visiting today?**

\_\_\_\_ Visitor Overlook at the top of the pass  
\_\_\_\_ Slide Rock  
\_\_\_\_ Indian Gardens  
\_\_\_\_ Uptown Shopping area  
\_\_\_\_ West Sedona  
\_\_\_\_ Bell Rock  
\_\_\_\_ Village of Oak Creek  
\_\_\_\_ Cottonwood  
\_\_\_\_ Traveling through without stopping

**8. What is the main purpose of your trip today?**

Travel through the canyon to another destination? Where? \_\_\_\_\_

Visit canyon sites for views

Hiking/running

Fishing

Swimming

Visit restaurant

Camping

Picnic

Attend special event/program

Shopping

Spiritual

Other \_\_\_\_\_

**9. What is the your main mode of transportation today?**

Private vehicle (car, van, SUV, RV)

Rental vehicle

Motorcycle

Bicycle

Other:

**10. Did you start your trip today from home, from someone else's home, from a hotel or motel, from a campground or an RV park, or from somewhere else?**

Home

Someone else's home

Campground/ RV park

Hotel/ Motel

Airport

Other: \_\_\_\_\_

**11. Will you return to the place you started or are you traveling directly on to another location?**

\_\_\_\_\_ Where to? \_\_\_\_\_

**12. How many people are traveling with you today (not including yourself)?**

\_\_\_\_\_ persons

**13. How many members of your party (including yourself) are:**

Under 5 years of age: \_\_\_\_\_

Between 5 and 12 \_\_\_\_\_

Between 13 and 17 \_\_\_\_\_

Between 18 and 64 \_\_\_\_\_

Over age 65 \_\_\_\_\_

**14. How many members of your party (including yourself) live in the Sedona area?**

\_\_\_\_\_ persons

**15. Does any member of your party have a disability that may make mobility difficult?**

Yes

No

**16. Do you or does anyone in your group have equipment other than purses, knapsacks and cameras that you have brought along for today's trip?**

None

Ice chest or cooler

Stroller

Bicycle

Wheelchair

Camping gear

Other: \_\_\_\_\_

**17. Did you experience any transportation problems, either getting to this location or traveling in the immediate area today?**

NO

Area is hard to get to [HOW? \_\_\_\_\_]

Congestion approaching Sedona [FROM WHERE? \_\_\_\_\_]

Slow traffic within the canyon

Difficulty parking [WHERE? \_\_\_\_\_]

Signage is inadequate

Lack of wheelchair access

Safety [EXPLAIN \_\_\_\_\_]

Other: \_\_\_\_\_

**18. Did any of these problems affect the quality of your experience in the canyon today?**

Which? \_\_\_\_\_

**19. The City and the US Forest Service are looking into developing a shuttle service that will operate from Sedona into the canyon, and will run approximately every 30 minutes. The shuttle will stop at a number of locations and do an hourly loop through the canyon. If this was implemented, would you:**

Yes    No

Use it if it was free

Use it if the fare was less than \$3

Use it if the fare was less than \$5

Use it if it ran more frequently

Use it only if the charge for parking was increased significantly

Use it only if there was a charge of over \$5 for driving your car through the canyon

Use it only if there was a charge of over \$10 for driving your car through the canyon

Not use it under any circumstances

Use it if:

---

(any other suggestions?)

**20. The City and the US Forest Service are also looking into developing a shuttle that will operate between the city of Sedona and the Village of Oak Creek. It will run approximately every 15 minutes. The shuttle will stop at a number of locations in the city and do an hourly loop through the canyon. If this was implemented, would you:**

Yes    No

Use it if it was free

Use it if the fare in Sedona was less than \$1

Use it if the fare was less than \$2

Use it if it ran more frequently

Use it only if there was a charge for parking in the city

Use it only if parking was more difficult to find or more costly

Not use it under any circumstances

Use it if:

---

(any other suggestions?)

**21. If shuttle service is offered, it may no longer be possible to park at the overlook and other locations in the canyon. If you had to take a shuttle to get to these locations, would you be likely to:**

\_\_\_\_\_ Take the shuttle

\_\_\_\_\_ Avoid traveling in the area

\_\_\_\_\_ Wouldn't affect me as I'm traveling through without stopping

\_\_\_\_\_ Don't know

\_\_\_\_\_ Other response

**22. Please rate the importance of the following items that could be offered if there was shuttle service from a parking facility at the entrance to Oak Creek Canyon:**

	Very Important	Important	Somewhat Important	Not at all Important
Storage for large items				
Accessible for those with disabilities				
Seat comfort and leg room				
Audio presentation/guided tour on the bus				
Length of time on the bus				
Ability to take bus from lodging				
Ability to stop anywhere on route				
Low fare				

**23. Do you have any other comments or concerns about a shuttle system through Oak Creek Canyon or in the City of Sedona?**

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**THANK RESPONDENT!!**

Record gender:	Male	Female
Record day of the week:	Sunday	Monday
Record time finished:	_____	AM/PM
Interviewer Name:	_____	
Location of Interview:	_____	

## **APPENDIX III**

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### RESIDENT SURVEY

## CITY OF SEDONA RESIDENTS/ VISITORS TRANSPORTATION SURVEY (WINTER 2002)

### Introduction

Good morning (afternoon). My name is \_\_\_\_\_ and I am doing a survey for the City of Sedona. We are looking at ways to improve travel in this area, and would like to include your opinions.

### Screening Questions

**Have you been asked to complete another survey today (or yesterday)?**

No (Continue)

Yes (Thank you for your time)

**This survey will take less than ten minutes to complete and all your responses are strictly confidential. Would you be willing to help us with the survey today?**

Yes (Continue)

No (Thank you for your time)

### INTERVIEW

**1. Do you live:**

In the City of Sedona? (skip to Question 7)

Elsewhere in the Red Rock area? Where? \_\_\_\_\_ (skip to Question 7)

Somewhere else in Arizona?

Where would that be? \_\_\_\_\_

Out of state?

Outside of the U.S.? \_\_\_\_\_

**2. Which of the following locations are you planning on visiting today?**

- \_\_\_ Oak Creek Canyon
- \_\_\_ Uptown Shopping area
- \_\_\_ West Sedona
- \_\_\_ Sedona residential area more than 3 blocks from Highway 89/ 179
- \_\_\_ Bell Rock
- \_\_\_ Village of Oak Creek

- \_\_\_ Cottonwood
- \_\_\_ Traveling through without stopping

**3. What is the purpose of this trip?**

- Work
- Visit canyon
- Shopping
- Medical
- Social
- Other \_\_\_\_\_

**4. Did you start your trip today from home, work, school, or from somewhere else?**

- Home
- Work
- School
- Hotel/ Motel
- Other: \_\_\_\_\_

**5. Will you return to the place you started or are you traveling directly to another location?**

\_\_\_\_\_ Where to? \_\_\_\_\_

**6. How many people are traveling with you today (not including yourself)?**

\_\_\_\_\_ persons

**7. How many members of your party (including yourself) are:**

- Under 5 years of age: \_\_\_\_\_
- Between 5 and 12 \_\_\_\_\_
- Between 13 and 17 \_\_\_\_\_
- Between 18 and 64 \_\_\_\_\_
- Over age 65 \_\_\_\_\_

**8. How many members of your party (including yourself) live in the Sedona area?**

\_\_\_\_\_ persons

**9. Does any member of your party have a disability that may make mobility difficult?**

Yes

No

**10. Did you experience any transportation problems, either getting to this location or traveling in the immediate area today?**

NO

Area is hard to get to [HOW? \_\_\_\_\_]

Congestion approaching Sedona [FROM WHERE? \_\_\_\_\_]

Slow traffic within the canyon

Difficulty parking [WHERE? \_\_\_\_\_]

Signage is inadequate

Lack of wheelchair access

Safety [EXPLAIN \_\_\_\_\_]

Other: \_\_\_\_\_

**11. (If city resident) How often do you go to the canyon for sightseeing, hiking, or other recreational activities?**

More than once a week \_\_\_\_\_

Once a week \_\_\_\_\_

A few times a month \_\_\_\_\_

A few times a year \_\_\_\_\_

About once a year \_\_\_\_\_

Very rarely \_\_\_\_\_

Not applicable \_\_\_\_\_

**12. The City and the US Forest Service are looking into developing a shuttle service that will operate between the city of Sedona, the Village of Oak Creek, and into the canyon. It will run approximately every 30 minutes in the canyon, and every 15 minutes in the city. The shuttle will stop at a number of locations in the city and do an hourly loop through the canyon. If this was implemented, would you:**

Yes    No

Use it if it was free

Use it if the fare in Sedona was less than \$1

Use it if the fare was less than \$2

Use it if it ran more frequently

Use it only if there was a charge for parking in the city

Use it only if parking was more difficult to find or more costly

Not use it under any circumstances

Use it if:

\_\_\_\_\_  
(any other suggestions?)

**18. Do you have any other comments or concerns about a shuttle system in the city of Sedona?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**THANK RESPONDENT!!**

Record gender:	Male	Female
Record day of the week:	Sunday	Monday
Record time finished:	_____	AM/PM
Interviewer Name:	_____	
Location of Interview:	_____	